1720

Adams, Karen K NAE

From: Lauriehammer12@hotmail.com
Sent: Thursday, December 09, 2004 3:18 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
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These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Laurie Hammer
9270 Eagle Ranch Rd. NW
Apt. 611
Albuquerque, New Mexico 87114

1721

Adams, Karen K NAE

From: Bonnie.Brown@mail.wvu.edu
Sent: Thursday, December 09, 2004 2:41 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Bonnie Jean Brown
804 Des Moines Ave
Morgantown, West Virginia 26505-5276

1722

Adams, Karen K NAE

From: rwegscheid@ideastogo.com
Sent: Thursday, December 09, 2004 1:48 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Rachel Wegscheid
2416 Taylor St. NE
Minneapolis, Minnesota 55418

1723

Adams, Karen K NAE

From: laura.herndon@disney.com
Sent: Thursday, December 09, 2004 1:42 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Laura Herndon
222 N. Buena Vista St. #207
Burbank, California 91505

1724

Adams, Karen K NAE

From: lowe15@yahoo.com
Sent: Thursday, December 09, 2004 1:30 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

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U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Kimberly Lowe
612 Sycamore Mill Drive
Gahanna, Ohio 43230-2262

1725

Adams, Karen K NAE

From: bandl142@aol.com
Sent: Thursday, December 09, 2004 12:47 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Leida Rosenberg
142 Laurel Park Rd.
Fallsburg, New York 12733-5008

1726

Adams, Karen K NAE

From: janetrojas@templeinland.com
Sent: Thursday, December 09, 2004 12:33 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

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U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Janet Rojas
1601 Mikes Drive
Garden City, Kansas 67846

1727

Adams, Karen K NAE

From: kmfdmchik@hotmail.com
Sent: Thursday, December 09, 2004 12:16 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

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U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

christina guida
33732 krauter
westland, Michigan 48185

1728

Adams, Karen K NAE

From: Kriegerl@njtown.net
Sent: Thursday, December 09, 2004 11:54 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Lisa Krieger
306 Village Commons
Flemington, New Jersey 08822

1729

Adams, Karen K NAE

From: pepperpot55@msn.com
Sent: Friday, December 10, 2004 12:18 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

beverly papelardo
146 draper st
springfield, Massachusetts 01108

1730

Adams, Karen K NAE

From: suzzeliza@aol.com
Sent: Friday, December 10, 2004 11:10 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Suaan Thompson
548 Wartman Street
Philadelphia, Pennsylvania 19128

Adams, Karen K NAE 1731

From: pbowen@us.ibm.com
Sent: Friday, December 10, 2004 10:43 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Pamela Morris
4619 8th Street NW
Rochester, Minnesota 55901

1732

Adams, Karen K NAE

From: darwincot@aol.com
Sent: Friday, December 10, 2004 10:38 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Joyce Cotton
375 Dennis Drive
Shepherdsville, Kentucky 40165-6211

Adams, Karen K NAE 1733

From: vando@getactive.com
Sent: Friday, December 10, 2004 10:37 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Van Do
146020 Mount Olive Rd
Centreville, Virginia 20121

Adams, Karen K NAE 1734

From: marie@veirsinsurance.com
Sent: Friday, December 10, 2004 9:23 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Marie Rodgers
18619 Nuthatcher Lane
Gaithersburg, Maryland 20878

Adams, Karen K NAE 1735

From: lgreenwood@getactive.com
Sent: Friday, December 10, 2004 9:18 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Lynn Greenwood
1900 L Street
Suite 400
Washington, DC, District of Columbia 20036

1736

Adams, Karen K NAE

From: llparsons@aol.com
Sent: Friday, December 10, 2004 7:09 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Leslie Parsons
19 Standish St
Provincetown, Massachusetts 02657

1737

Adams, Karen K NAE

From: gathingn@yahoo.com
Sent: Friday, December 10, 2004 12:09 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Nancy Gathing
3701 Tulane Ave.
Madison, Wisconsin 53714

1738

Adams, Karen K NAE

From: rosemauve2001@yahoo.com
Sent: Thursday, December 09, 2004 11:45 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Sonora Murphy
19307 Ellington Tr
Farmington, Minnesota 55024

1739

Adams, Karen K NAE

From: lindastoy@verizon.net
Sent: Thursday, December 09, 2004 11:44 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

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U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Linda Jones
1349 Hollowell St.
Ontario, California 91762/2807

1740

Adams, Karen K NAE

From: richman@email.unc.edu
Sent: Thursday, December 09, 2004 6:42 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Julia Richman
2 Greystone Ct
Durham, North Carolina 27713-9362

1741

Adams, Karen K NAE

From: bellenavajo@peoplepc.com
Sent: Thursday, December 09, 2004 4:57 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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Sincerely,

Barbara Griffin
15626 N 16th Drive
Phoenix, Arizona 85023

1742

Adams, Karen K NAE

From: kcec2say@hotmail.com
Sent: Thursday, December 09, 2004 4:48 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

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- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Kristen Collins
29 Broad St
Lynn, Massachusetts 01902

1743

Adams, Karen K NAE

From: akanes@getactive.com
Sent: Thursday, December 09, 2004 4:22 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

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Sincerely,

Andrew Kanes
527 Colecroft Ct
Alexandria, Virginia 22314

1744

Adams, Karen K NAE

From: ihm333@webtv.net
Sent: Thursday, December 09, 2004 3:31 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

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U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Ileene Mark
2118-77th Street
Brooklyn, New York 11214-1514

1745

Adams, Karen K NAE

From: Amy Fisher [amyfisher999@yahoo.com]
Sent: Friday, December 10, 2004 12:02 PM
To: Energy, Wind NAE
Subject: Bring Cape Wind online!

December 10, 2004

Karen Kirk-Adams
U.S. Army Corps of Engineers, New England District
Cape Wind Energy EIS Project
696 Virginia Road, Concord, MA 01742

Cape Wind Energy EIS Project

As a resident of Massachusetts, I was very excited to hear about the Cape Cod Wind Energy project. The pubic benefits are indeed compelling. I want to see Massachusetts become a successful example of moving towards a clean energy future.

The project will have minimal impact on fishing, boating and tourism. The wind park will bring high-paying jobs to the area, and I urge the Army Corps of Engineers helps to bring Cape Wind into operation quickly and safely.

The visual impacts will be minimal, and with some wind projects, tourists actually travel to see the wind farms.

As an environmentalist, I support the project whole-heartedly. The turbines will have little impact on birds -- according to the American Wind Energy Association, windows pose a greater threat to avian life than wind turbines. Wind power can replace fossil-fired generation, improving the air quality in the Northeast.

Sincerely,

Amy Fisher
20 Woodlawn St # 1
Jamaica Plain, MA 02130-4102
USA
amyfisher999@yahoo.com

1746

Adams, Karen K NAE

From: Conroymv@aol.com
Sent: Friday, December 10, 2004 11:21 AM
To: Energy, Wind NAE
Subject: Wind.energy/SOS

Please do not continue with this abberation on our sound.

1747

Adams, Karen K NAE

From: Bert Myer [2bert@comcast.net]
Sent: Friday, December 10, 2004 8:52 AM
To: Energy, Wind NAE
Subject: Opposed to Wind Farm

One of the reasons the Cape and Islands are popular destinations and desirable habitats, year-round, is not only for their recreational value, but also for the sense of beauty and peace they provide -- an escape from the man-made industrial landscape of the mainland. To gaze out to an uncluttered, pristine sea is one of life's great pleasures and rewards. To permanently alter this seascape would be to impose on those who seek relief from man's relentless and pervasive industrialization and commercialism the very things from which they deserve respite, be it for an hour, a day, a season, or a lifetime.

I oppose the wind farm for aesthetic reasons only. Enough is sometimes enough. Let us be able to occasionally turn our backs on radio towers, cell phone towers, telephone poles, and indeed civilization itself, and appreciate forever the view nature so grandly provides.

Bert Myer
87 Main Street
Hampstead, NH 03841

 174B

Adams, Karen K NAE

From: Rosenberg, Larry B NAE [Larry.B.Rosenberg@nae02.usace.army.mil]
Sent: Friday, December 10, 2004 8:38 AM
To: Energy, Wind NAE
Subject: FW: Comment Sheet on Draft EIS, Nantucket Meeting, Aure Hamel

-----Original Message-----
From: Aure [mailto:acksilver@comcast.net]
Sent: Thursday, December 09, 2004 2:04 PM
To: Rosenberg, Larry B NAE
Subject: Comment Sheet on Draft EIS, Nantucket Meeting, Aure Hamel

----- Original Message -----
From: Aure
To: janet.hutchins@state.ma.us ; larry.b.rosenburg@usace.army.mil
Cc: Barbara ; jules@saveoursound.org ; PhilHaml@aol.com
Sent: Thursday, December 09, 2004 2:40 AM
Subject: Comment Sheet on Draft EIS, Nantucket Meeting, Aure Hamel

Dear Mr. Rosenberg & MEPA,

Thank you for coming to Nantucket. I would not have been able to attend an off island event.

I spoke about sand displacement (I was the final speaker) and below are links to research done on the subject as well as supporting documents on radar interference research which was presented for marine, but not for aviation. Also included is a viable alternative in harnessing our areas renewable resources.

Could you please review and/or forward these research documents for submission to Karen Adams?
I would print them for submitting, however they are very large documents and I do not have the paper
or the ink to do so.

http://www.geo.ua.edu/intro03/Shore.html
*Note; Shoreline Deposition, and Human Interference with shoreline Processes

http://www.instant-essays.com/science/erosion-of-barriers.shtml
*Note; Longshore drifts and currents, Rollover (Will this create a windfarm 'island' in Nantucket Sound? Or will the Longshore currents undermine the stability of the sea floor allowing for soft footings under the wind turbines? We need to thoroughly study the movement of the sand in Nantucket Sound before understanding the impact to the environment.)

http://www.wetmaap.org/Cape_Hatteras/Supplement/ch_backgroundessay.html#Barrier%20Island%20Environment
*Note; Human Alterations

http://www.midtermpapers.com/view.php/d/1555.HTM
This is the most informative independent report I could find on estuaries, unfortunately I cannot afford the $ to read the rest of it and presume that the author does not want to publish it. I will contact them to ask for complete submission into the comments on the Draft EIS

1748

Aviation + Doplar Radar http://www.bwea.com/aviation/ams_report.html
*Not presented, Air traffic control was working during the meeting. Please view this entire document
and not just the summary, thank you.

Marine & Radar/Loran/GPS http://www.mcga.gov.uk/c4mca/lrgtxt/northhoyle_ver_2.pdf
Presented by George Bassett

AN ALTERNATIVE http://uekus.com/index.html
Also please see the attached which was emailed to me as a response to a request for help.
It is an independent study which encompasses wind and water turbines. The UEK was designed by Philippe V. and had much input from fishermen as well.

I would like to ask all people who have not yet submitted comments on the EIS to please view these documents and to please submit any or all to be taken into consideration by the Army Corps of Engineers. We may only submit once per person, so make it count. These are areas of grave concern and minimal testing or knowledge. There has been no research done in the US on offshore wind farms, and no research in the world on a project of this size.

Thanks,
Aure Hamel

1749

Adams, Karen K NAE

From: uekus@juno.com
Sent: Friday, November 26, 2004 12:34 PM
To: acksilver@comcast.net
Subject: Re: Hi Philippe, it's Aure

It was a surprise to hear from you after such a long time.

And I am pleased that you continue to think UEK can be a part of the solution.

If you have any ideas we would be happy to discuss them with you. We expect to conduct a feasibility study in Maine next spring for a client and it wouldn't be too out of the way to meet with interested parties on Nantucket.

Regards,

Philippe Vauthier

Attached are documents recently completed as part of a research paper by a 4th year student at the Naval Academy. He makes some very strong arguments for the use of ocean energy and he has described UEK's technology in a very clear manner. This should give you some ammunition to work with.

1750

Harnessing the Renewable Energy of the Ocean: Tides, Currents, and Waves

By

MIDN 1/C Lawrence Heyworth

Underwater Work Systems EN430

CDR Marr

November 1, 2004

Harnessing the Renewable Energy of the Ocean: Tides, Currents, and Waves

Effectively using the energy contained in the motion of the world's oceans to drive power production is a relatively new field in engineering. Only in the past year has the world's first full-scale underwater turbine been placed on site and brought on-line for power generation. Marine energy could potentially represent a large percentage of future energy sources, which must become increasingly renewable to account for dwindling petroleum supplies around the world. Renewable marine energy is the synthesis of several already well-researched areas, most notably including fluid flow through turbines and the patterns of the ocean's currents and tides. By combining these two areas of knowledge, many companies have designed effective ways to use the consistent and predictable fluid flow of the ocean to power large-scale turbines.

Although the designs already exist to make renewable marine energy a significant contributor to the power grids of the world, there are several factors that continue to slow the implementation of these ideas into working technology. The most significant of these is the initial cost of bringing the designs into fruition. The United

States continues to rely on conventional power plants to produce electricity and has only paid passing attention to the potential of renewable marine energy. Other countries, however, most notably the United Kingdom, have recognized the potential of current, tidal, and wave energy generation, and have spent significant amounts of capital on the research and development of these new alternative energy sources. The development of this technology is traceable from basic underwater turbine design, through grants earned by marine energy companies to present-day operational systems. As this path is studied it should become apparent that although renewable marine energy holds great potential for future impact in worldwide power production, it has not yet received enough funding and support from governments around the world to do so.

The beginnings of tidal and current power generation are found in fluid flow analysis. Nearly all the viable system designs in the current and tidal power generation field, and even a few in wave power, use turbines driven by fluid flow. Turbines are also used in conventional hydroelectric power generation such as dams, but their function differs drastically from those used in current and tidal systems. Hydroelectric dams and other similar power

generation methods are considered "large head" systems. This refers to Bernoulli's equation, which states:

$$p + \tfrac{1}{2} \rho V^2 + \rho g h = \text{constant}$$

Where p = fluid pressure, ρ = density, V = velocity, g = acceleration due to gravity, and h = elevation. In large head systems, turbine blades cover most of the area available for fluid flow. This means that no fluid can travel around the turbine; it must all go through it. This dramatically resists free fluid flow, slowing the velocity of the system and building up "head," which can be thought of as water piling up in a vertical reservoir above the turbine. Some turbines are able to achieve close to 90% efficiency as higher water head causes the kinetic term of the Bernoulli Equation ($\frac{1}{2} \rho V^2$) to go to zero and allows the potential energy term ($\rho g h$) to dominate the output.[1] The fluid flow is completely different in current and tidal systems, and different turbines are necessarily needed.

The currents and tides of the ocean are considered low-head, free water flows. In this situation, the kinetic term of the Bernoulli Equation dominates. A large-resistance turbine would be ineffective for the new application, as flow would divert around the impedance

rather than build up head. A turbine is needed that allows high torque to develop in slower flows. Dr. Alexander M. Gorlov of Northeastern University has done extensive research on free stream turbine efficiency, and has developed a helical turbine capable of up to 35% efficiency,[2] which is at least a 5% improvement over most other free flow turbines. In addition, the helical blades dynamically balance and eliminate the turbine pulsation that exists in other systems.[3] The higher losses when compared to large-head turbines are due to the new characteristics of the modified system: the turbine cannot be allowed to resist fluid flow because the power is now coming from fluid velocity rather than head.

Although 35% efficiency is drastically less than that achieved by dams, free flow turbines cause much less disruption to the environment and can be used in a variety of different ways. Gorlov's helical turbine represents the most efficient turbine designed to capture energy in free flow. The ocean transmits energy in a variety of different methods, but free fluid flow represents the most consistent and energy-dense mode of energy transportation.

There are many advantages to using free ocean fluid flow to produce power. The first is abundance. Significant currents and tides exist in all the oceans

around the world, and can be harnessed anywhere. Specific areas that contain faster currents or more dramatic tides are certainly more desirable than others for power generation, but some amount of energy can be gleaned anywhere one can access the ocean. In addition, this energy is already present and needs only to be effectively harnessed to drive power production. Upon setting up such a facility, there is then no cost involved with using the fluid flow.

There is no significant operating cost involved at a wind farm, either, but using water to produce power has several key advantages over other widespread renewable energy methods. The density of water flow is about 850 times greater than the density of a comparable airflow, meaning that more energy can be transmitted from a water flow to a turbine per unit area.[4] Finally, again in contrast to other renewable energy sources, kinetic ocean energy is accurately predictable. Although it is spread out over a large area, ocean currents and tides can be accurately predicted centuries in advance.[5]

Unfortunately, there are several disadvantages to utilizing fluid flow in the ocean to produce power as well. The most significant drawback is the initial cost involved. The technology required to produce power from ocean tides

and currents does exist, but has not received enough funding to make large-scale projects readily available. Essentially each system developed over the next few years will be "custom-made" until demand increases, which will in turn drive down the future costs per unit. For example, one proposed design of a floating power farm in the Gulf Stream was estimated by its designer to cost $300 million to build.[6] The custom-made power farm, even with this high initial cost, would not compete with conventional power production levels. This drawback of high initial capital investments will gradually disappear as tidal and current power technologies become more commonplace.

The second major disadvantage to ocean power production centers on the difficultly that large offshore power production plants will need to transmit power back to the mainland through efficient means. An efficient method to achieve this end state of onshore power does not yet exist. A very large, long electric cable could be run on the ocean floor, but such a cable cannot be used for a station more than several miles offshore. Another solution uses the power plant to run hydrolysis reactions, generating hydrogen gas for the potential hydrogen economy of the future.[7] Neither method of electricity transfer has been fully developed, and implementing large offshore power

production plants would necessitate further research in these areas - and therefore more incurred cost.

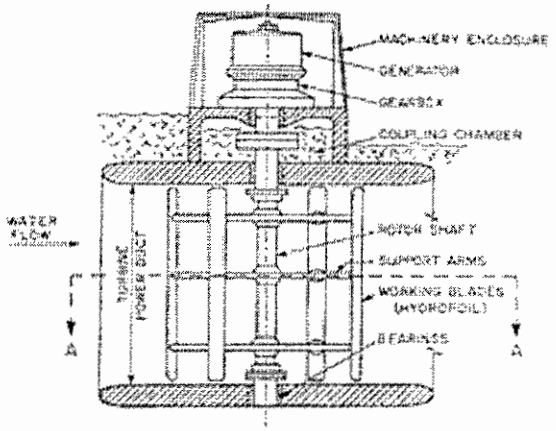
The last significant disadvantage of underwater turbines, and any system engineered to be around the ocean, is corrosion. Most designs of marine turbines combat corrosion by having all of the mechanical housing of the turbine above water (or in a water-tight compartment). Corrosion, then, is limited to the rotors of the turbine. The perpetual motion of the turbines prevents marine growth from forming on the rotor blades; uniform corrosion of the surface of the blade is the primary concern. The approach of Martin Burger, the CEO of Blue Energy Canada, Inc., is concurrent with typical designs for most underwater turbines: "The rotor can be built with either carbon steel and epoxy coated, or marine grade stainless steel, or alternatively carbon composites and each of these provide adequate corrosion protection."[8] Certainly design life becomes an important issue when determining the fabrication methods of an underwater turbine. Stainless steel will not last as long under water as carbon composites or epoxy-coated steel, but both of these latter options should last as long as the above-water, mechanical portions of the unit.

The high costs that will be involved with starting large scale, renewable marine energy plants have deterred many governments from investing in the new technology. The United States, for example, derives 53% of its energy from coal-fired plants, while "other renewables" accounts for only 1%.[9] The data was not available for the breakdown of this category, but wind farms most likely attribute the entire amount. There are very few low-head water driven turbines presently attributing to the power grids of any state. However, information from the United States Energy Information Association makes it clear that with the correct technological advances, it would be possible to add marine energy technology to the power production methods of the United States in the very near future.

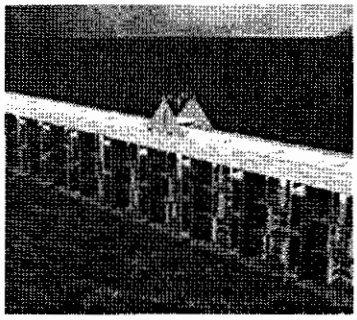
The Energy Information Association included data about renewable energy advances in Cape Cod in its Country Analysis Brief of the United States. A 420 MW windmill plant off the Cape Cod coast could soon power 200,000 surrounding homes.[10] This role could be filled more consistently and efficiently by marine energy, but the local government was most likely unable to invest in the higher-priced new technology.

There are currently several companies around the world with tidal and current generation concepts that could have

taken the place of the Cape Cod windmill plant. Blue Energy is a Canadian Company that uses vertical axis Darrieus Turbines positioned in a "tidal fence" for large-scale applications. These turbines are used for very low head systems, but are not as efficient as Gorlov's patented helical turbine. Blue Energy's units sit near the surface, with gearboxes and electronics above water (figure courtesy of Blue Energy Canada, Inc.). Blue Energy has developed its own concepts for utilizing its units in an array, as is necessary to effectively capture current and tidal energy.[11] They currently have several design proposals ready for possible projects, most notably in British Columbia and Washington State. In both designs they propose variations of a tidal fence, which positions Darrieus Turbines next to each other and one on top of another in a large matrix perpendicular to the direction of fluid flow. The tops of the machinery rooms could hold a four-lane roadway when linked together to form a bridge. (figure courtesy of Blue



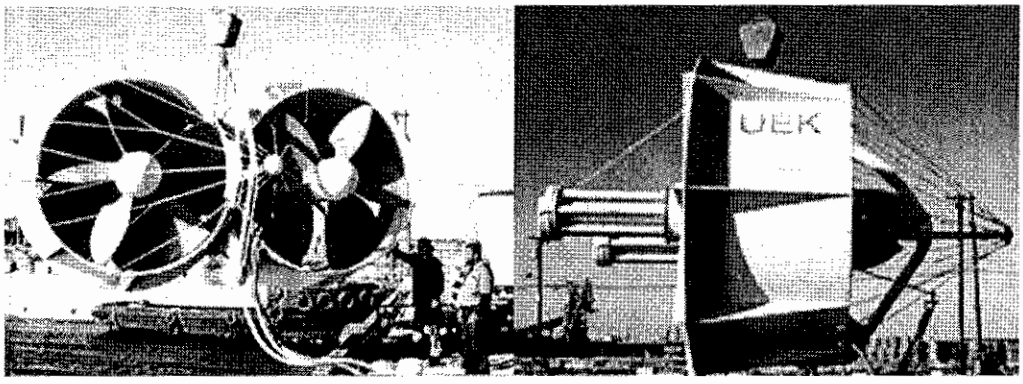
Blue Energy Darrieus Turbine



Blue Energy tidal fence

Energy Canada, Inc.). In Blue Energy's design proposals for Admiralty Inlet, Washington and Turtle Island, British Columbia, the turbine housings are used also as barriers to provide security to harbors. The Washington State design would be a 5000 MW project, which would add 20% to Washington's current levels of power production and generate $1.3 billion in annual power revenue.[12] Unfortunately for Blue Energy, both projects have yet to be accepted.

Another major contender in the marine energy field is Underwater Electric Kite Corporation, which is based in Annapolis, Maryland. UEK's design consists of a buoyant propeller-like turbine that is anchored to the ocean floor and suspended like a kite in the current flow:



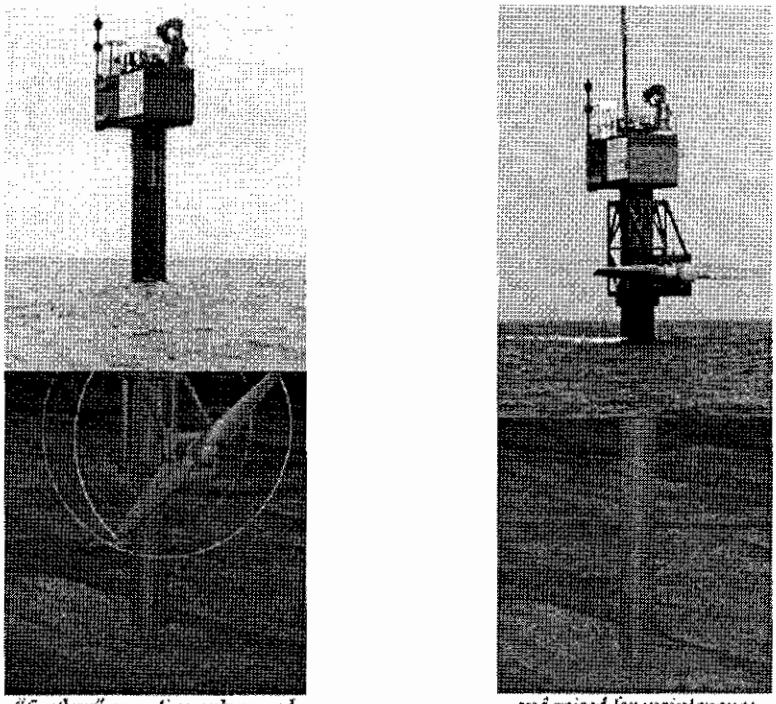
Underwater Electric Kites - Figures courtesy of UEK Corporation

The UEK machine is available in several different sizes, making underwater kite arrays customizable to different situations. UEK units have been tested extensively, and various configurations in various currents yield a large range of power outputs. 1 Twin 1128 kW unit would yield 1 MW of power in a 10 knot current, meaning an array of 420 1128 kW units would compare to the Cape Cod wind farm.[13] UEK is currently working on projects with Alaska Power & Telephone in Eagle, Alaska and has proposed a 25 unit, 10 MW array for the Indian River Inlet, Delaware.[14] Again, the UEK system has been proven in testing, but needs significant investments to continue to take the designs forward.

In 2002 a Canadian energy company called BC Hydro conducted an investigation of the applicability of renewable marine energy technologies to the current power situation of British Columbia. An initial investigation by Triton Consultants outlined many of the current marine energy contenders, including Blue Energy and UEK. Many of the systems were found to be usable for the power generation needs of British Columbia, and key areas of high-speed currents were located where marine energy systems would be extremely effective.[15] Despite BC Hydro and Triton Consultants' findings, the British Columbian

government's Energy Plan of 2002 indicated that new power generation would come from independent power producers rather than renewable energy.[16] Without government support of the alternative energy initiative, BC Hydro and other investors looked toward other methods of power generation. Had the government of British Columbia decided to support renewable marine energy technology, their grants would have allowed at least one of the underwater turbine developers to propel their designs into working systems.

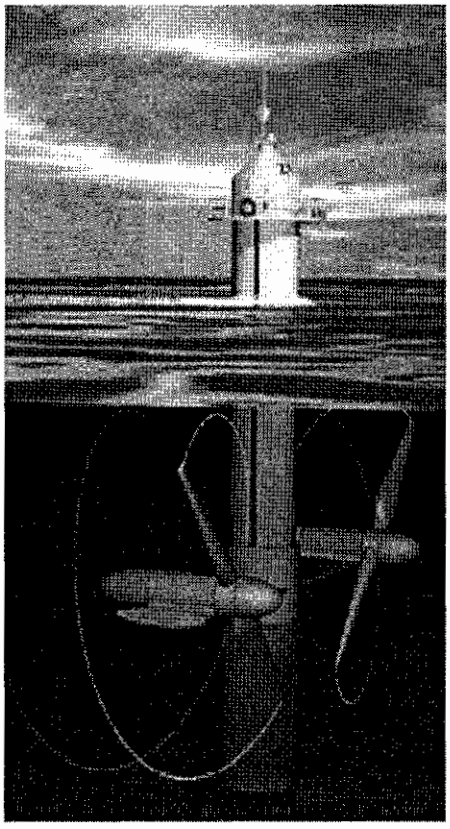
Unlike the provinces of Canada, the United Kingdom has recently become a forerunner in funding renewable marine energy. Marine Current Turbines LTD is a United Kingdom based company that already has one project in operation. "SeaFlow" is a single column, single rotor turbine that works much like an underwater windmill:



SeaFlow - Figures courtesy of Marine Current Turbines, LTD

This unit is located in the Bristol Channel, approximately 3 km off the coast of Lynmouth, a small town in southwest England. It sits approximately 15 m above the surface of the water and its rotor blades are 11 m long each. SeaFlow, installed in early 2003, was the world's first operational underwater turbine.[17] It has a power production capability of 300 kW, which travels through a cable along the ocean floor to shore. In comparison, this means that 1400 units would have been installed off the coast of Cape Cod to produce the same amount of power as the wind farm. SeaFlow was a £3.4 million project financed by industrial partners, the European Commission, the DTI Energy Ministry

of the British Parliament, and the German Government. Obviously with this amount of cost incurred through the installation of one unit, SeaFlow cannot yet compete with conventional power production methods or the renewable wind energy installed in Cape Cod. Using a newer, 1 MW prototype known as SeaGen, only 420 units would need to be used to compare to the wind farm, but initially costs would still be significantly high.[18] The newer unit from Marine Current Turbines LTD is a twin rotor system:



SeaGen Concept - Figure courtesy of Marine Current Turbines, LTD

SeaGen is currently under development and will be installed in 2005. It will be a £6 million project funded by largely the same partners as SeaFlow.[19]

The year of 2003 also saw the government of the United Kingdom invest an additional £19 million into research and development of current and tidal power generation. Some of the funding included £2 million allotted to research surrounding the "Stingray" tidal stream generator project, which is named for the undulating power generation methods (Figure courtesy of The Engineering Business Ltd.).[20] The angle of attack of a hydroplane resembling an airplane wing is mechanically changed in response to fluid flow, which causes the supporting arm to rotate and hydraulic cylinders to expand and contract. These hydraulic cylinders compress oil that in turn drives a generator. This project has been completely designed, built, installed offshore, tested, and decommissioned through funding given by the DTI Energy Ministry of the British Parliament.[21] The United Kingdom continues to be a forerunner in the world in investing in renewable ocean energy technology. Their involvement with

"Stingray" Module

the Stingray project - unconventional in that it does not use a turbine as its main method of energy capture - shows that the British Parliament is eager to support new methods of power generation.

Of the members of the United Kingdom, Scotland is perhaps the most supportive of current and tidal technology. On August 2, 2004, the Scottish government pledged £50 million to the development of the marine power industry. [22] A Scottish Executive committee reported concurrently that 10% of all Scottish energy could come from marine renewables by the year 2020, which represents about 4000 GWh/year. The new industrial developments would create about 7,000 jobs as well.[23] Much like the British Columbia report, the Scottish Executive Committee found that Scotland possesses a huge wave and tidal energy resource. They also found that the technology involved was somewhat unproven, but the Scottish government determined that funding the technology into maturity would be beneficial to the Scottish power system. The funding of the Scottish government where the British Columbian government refused to become involved has put Scottish marine energy companies at the top of their industry. Although there has been no talk of such a study taking place in the United States, the power generation situation

of the country could potentially benefit greatly from an introduction of renewable marine energy systems.

Introduction of renewable energy systems into the United States would most likely occur on the level of state governments. The various designs that have been proposed by the forerunners in the current and tidal energy generation industry would add significantly to the current US power grids. For example, the Robert Moses Niagara hydroelectric power plant in New York is rated as capable of 2160 MW of power generation. The largest plant in New York, Ravenswood, is a petroleum and gas-fired plant with a net capability of 2174 MW while Nine Mile Point Nuclear Station has a net capability of 1756 MW.[24] The tidal fence proposed by Blue Energy Canada Inc. for Washington State is a 5000 MW system. This could allow the state of New York, for example, to take two petroleum plants or coal-fired plants offline. With the initial investment of capital in the technology, the United States would be able to begin to switch power generation substantially to marine energy. This would conserve petroleum, which continues to rise in price and fall in availability, and would create a cleaner, more environmentally-friendly power generation system. If the United States would invest in the technology as the

United Kingdom has, the power generation capacity of North America would change shape drastically.

To its credit, the United States government has not been completely unsupportive of renewable marine energy technology. On May 30, 2001, Ocean Power Technologies, Inc. presented a design to the United States Senate Committee on Environment and Public Works. Ocean Power Technologies' design is unique when compared to previously mentioned power generation systems in that it uses the vertical motion of energy in waves to produce power rather than the translational motion of energy in fluid flow. There are no turbines involved with the OPT design. OPT has also managed to nearly eliminate the main disadvantage of other marine renewable energy systems - the initial cost. OPT uses an array of rugged buoys that rise and fall with incoming waves to drive its power generation systems. The resultant vertical motion is used to drive an electric generator, which creates AC power. The AC power is converted to DC and then transmitted to shore through an underwater power cable.[25] Each buoy has a capability of roughly about 20 kW. It would take an unfeasibly large array of Ocean Power Technology's buoys to match the power production capability of the Cape Cod wind farm, but OPT

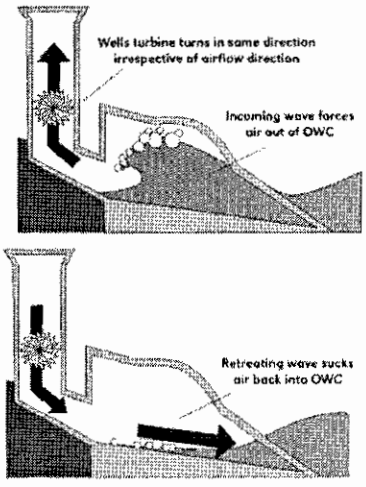
has other units that are more able to support large-scale power production.

OPT has managed to make its technology relatively cheap because of its simplicity. Its initial cost for a 100MW system (500 unit cluster of 200kW units) is $2300 per kW, while the cost of a coal-fired plant ranges from $1500 to $3500 per kW. This is a very competitive price, considering that the cost of operation is significantly less than any conventional power plant because fuel is unnecessary.[26] However, OPT's technology has challenges of its own. Wave energy disintegrates rapidly as waves begin to feel the bottom of the ocean, which can be many miles offshore for larger waves. This is especially true for the eastern seaboard of the United States, where the continental shelf extends far beyond the shoreline. For large-scale power generation, OPT's technology must be in deep water to be exposed to the largest amount of wave energy possible. Unfortunately, power becomes harder to transport to shore as the buoys move farther away from the coast. In general, the optimal depth for harvesting wave energy is in 50-100 meter deep water. At this depth, most waves have not yet lost a significant amount of energy due to bottom contact, and anchoring buoy systems is still relatively cheap and easy.[27] This problem has not become a

huge issue to OPT, as the New Jersey-based company has focused on smaller-scale projects.

OPT has been successful in marketing its product to several customers, including the State of New Jersey, an electric utility in Australia, and the US Navy. OPT's design is ideal for the needs of the Navy because the off-site transportation of power is not necessary at all. The buoys generate power on site and the power is stored to recharge the Navy's remote operated vehicles and autonomous underwater vehicles. The system also generates additional power using piezoelectric plastics, which create electricity when deformed by any outside force. These plastic strips trail behind the buoys, creating power as they undulate in the propagating waves.[28]

The vertical motion of wave energy can be effectively harnessed in other ways as well. Wells turbines, which turn in the same direction regardless of flow direction, can be placed in a chamber exposed to waves at one end. As waves collide into this "oscillating water column," air is forced up through the turbine. As the wave retreats, pressure reduces, and air is drawn back down through the turbine (figure



courtesy of Earth Science Australia).[29] Researchers in India have developed methods of using wells turbines in oscillating water columns that represent much larger scale power generation systems. Construction is relatively cheap, as each unit is made from concrete, and doubles as a breakwater. While creating harbors they are also harnessing energy. Along the Indian Coast, researches determined that approximately 3-10 kW would be developed per meter of their design.[30] These oscillating water columns have the same disadvantages of traditional breakwaters, most notably the negative effects to be had on sand flow along the coast. However, there are currently several of these units in use in India.

The problem that any type of renewable marine energy plants might have with power transport to shore would disappear if the world begins to transition to a hydrogen economy. One of the current disadvantages to marine power generation is that plants must be relatively close to shore to transport power directly to power grids. However, if hydrogen begins to power automobiles and other significant devices in our economy, marine power generation plants could theoretically become very efficient generators of hydrogen. Offshore renewable energy plants are natural candidates for the production of hydrogen, which is

achieved through hydrolysis. Hydrolysis is simply explained as running an electrical current through water and splitting water molecules into hydrogen and oxygen gas. Underwater turbines could directly power hydrolysis plants, which would also solve problems of varying output. If a turbine was providing power for a city power grid, the output would need to be regulated because current flows often fluctuate dramatically. However, when powering a hydrolysis reaction, the reaction would simply speed up as the turbine supplies more voltage to the system. Hydrogen could be collected on site and then transported, either as a compressed gas or as a super cooled liquid. Decommissioned tankers could even be used to collect and store the produced hydrogen.[31] Transferring the energy immediately to hydrogen solves many problems with the technology's ability to transport power onshore. However, creating hydrolysis plants is not feasible until a substantial amount of hydrogen is needed in the United States economy.

The consistent investment of the United States government in large-scale renewable power production is necessary for the success of the marine energy industry. The benefits of the US government's investment in current and tidal technology would far outweigh the initial costs

involved. Using designs that are already being proposed by companies such as Blue Energy or Underwater Electric Kite, the United States could begin to turn the powerful currents just off the coasts into power generating systems. Integration of renewable marine energy into the power grid could begin the transition of the United States economy away from coal and petroleum based power plants and toward alternative energy methods. If the United States investigates the field as other governments have done and chooses the path of the United Kingdom rather than British Columbia, renewable marine energy would become a significant part in worldwide power production.

Endnotes

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1751

Adams, Karen K NAE

From: Eric Bean [beanworkshops@yahoo.com]
Sent: Friday, December 10, 2004 7:22 AM
To: Energy, Wind NAE
Subject: cape wind support

To whom it may concern,
This is one of the best ideas that has surfaced in a very long time. Very few problems and a lot of benefit.
Sincerely,
Eric Bean
38 Eliot Ave.
West Newton, MA 02465

1752

Adams, Karen K NAE

From: Paula Ansaloni [p_ansaloni@hotmail.com]
Sent: Friday, December 10, 2004 7:18 AM
To: Energy, Wind NAE
Subject: YES to Nantucket Sound wind farm

As a Vermont resident, living a couple of mountains east of the Searsburg wind turbine generating facility, I fully appreciate the advantages of wind generation and enthusiastically support the plans for a 130-turbine wind "farm" in Nantucket Sound. We need this type of development to supply present and future electricity demand, while reducing dependence on fossil fuel and decreasing the production of greenhouse gases. BRING IT ON!

W. L. Johnson
wljohnsn@sover.net

1 Hopkins Rd, WDummerston VT 05301

1753

Adams, Karen K NAE

From: Laura Walters [waltersl@dickinson.edu]
Sent: Thursday, December 09, 2004 9:02 PM
To: Energy, Wind NAE
Subject: Bring Cape Wind online!

December 09, 2004

Karen Kirk-Adams
U.S. Army Corps of Engineers, New England District
Cape Wind Energy EIS Project
696 Virginia Road, Concord, MA 01742

Cape Wind Energy EIS Project

As a resident of Massachusetts, I was very excited to hear about the Cape Cod Wind Energy project. The pubic benefits are indeed compelling. I want to see Massachusetts become a successful example of moving towards a clean energy future.

The project will have minimal impact on fishing, boating and tourism. The wind park will bring high-paying jobs to the area, and I urge the Army Corps of Engineers helps to bring Cape Wind into operation quickly and safely.

The visual impacts will be minimal, and with some wind projects, tourists actually travel to see the wind farms.

As an environmentalist, I support the project whole-heartedly. The turbines will have little impact on birds -- according to the American Wind Energy Association, windows pose a greater threat to avian life than wind turbines. Wind power can replace fossil-fired generation, improving the air quality in the Northeast.

Sincerely,

Laura Walters
41 Pleasant St
West Newbury, MA 01985-1429
USA
waltersl@dickinson.edu

1754

Adams, Karen K NAE

From: Brett Feldman [feldjamin@hotmail.com]
Sent: Thursday, December 09, 2004 7:32 PM
To: Energy, Wind NAE
Subject: I support the Cape Wind DEIS

December 09, 2004

Karen Kirk-Adams
U.S. Army Corps of Engineers, New England District
Cape Wind Energy EIS Project
696 Virginia Road, Concord, MA 01742

Cape Wind Energy EIS Project

As a resident of Massachusetts, I was very excited to hear about the Cape Cod Wind Energy project. The pubic benefits are indeed compelling. I want to see Massachusetts become a successful example of moving towards a clean energy future.

The project will have minimal impact on fishing, boating and tourism. The wind park will bring high-paying jobs to the area, and I urge the Army Corps of Engineers helps to bring Cape Wind into operation quickly and safely.

The visual impacts will be minimal, and with some wind projects, tourists actually travel to see the wind farms.

As an environmentalist, I support the project whole-heartedly. The turbines will have little impact on birds -- according to the American Wind Energy Association, windows pose a greater threat to avian life than wind turbines. Wind power can replace fossil-fired generation, improving the air quality in the Northeast.

Sincerely,

Brett Feldman
86 Stone Ridge Rd
Franklin, MA 02038-3131
USA
feldjamin@hotmail.com

1755

Adams, Karen K NAE

From: Jnschaech@aol.com
Sent: Thursday, December 09, 2004 7:28 PM
To: Energy, Wind NAE
Subject: No Subject

dear Army Core

I am a very strong supporter of the windfarm to be built off Nantucket Sound. The reason is global warming and fossil fuel. This is very very serious situation for the planet. The windfarm is an exellant way of going about it. It will light up the Islands and 3/4th of the Cape. But most important it will send a huge message to get more windfarms and other clean energy sources built. This way it will not only protect this planet but the U.S.A. will not be depedant on middle Eastern oil. That would have prevented the Iraq war and quite possibly 9/11. If we were not such great consumers of oil.

I am most of all happy that the study is complete and that enviormental report came out positive. It sounds like the only reasons to be against it is the view. To compare the view of Nantucket Sound to fossil fuel and global warming' simply can't be compared. Global warming is thousands of times more important to deal with and the sooner the better.

It seems like the Aliance and people apposed to the windfarm can not come up with a good reason. They demand further review which has already been completely done. They contadict the final report of the Army core. Examples are boating 'fishing and birds.If the Aliance was truthful about birds or fish' fossil fuel will do thousands of times more damage than the windfarm could.Some of the people apposed to the windfarm still claim to be enviormentalist but they don't want it in there own back yard (nimby). Surely they must of heard think globely act localy. I guess that means everyone else but them.

respectably

John

Schaechter

1756

Adams, Karen K NAE

From: Solomon Hsiang [hsiang@MIT.EDU]
Sent: Thursday, December 09, 2004 6:55 PM
To: Energy, Wind NAE
Subject: Please continue with the wind farm project

The Cape Wind project is a great project and should be continued. There is no reason that the rich elite should condemn the rest of us to unsustainable practices. I implore you to continue with your nobel pursuit. I trust that you will do what is right.

Solomon Hsiang

Solomon M. Hsiang

Massachusetts Institute of Technology:
Department of Earth, Atmospheric and Planetary Science;
Department of Urban Studies and Planning;

hsiang@mit.edu
617-513-1970
487 Commonwealth Avenue
Boston, MA 02215

1757

Adams, Karen K NAE

From: MitchWeiss@aol.com
Sent: Thursday, December 09, 2004 6:54 PM
To: Energy, Wind NAE
Subject: (no subject)

I am writing to add my voice to the many others who are opposed to the construction of the Nantucket Sound windmills. Our family has enjoyed the uniqueness and splendor of the Cape and Islands for most of our lives. Today, our great fear is that construction of these towers will cause the place we cherish to take on the appearance of I-10 outside of Palm Springs.

1758

Adams, Karen K NAE

From: SHERMTOYS@aol.com
Sent: Thursday, December 09, 2004 6:17 PM
To: Energy, Wind NAE; candv@adelphia.net
Subject: (no subject)

TO WHOM IT MAY CONCERN;
I SENDING THIS E-MAIL IN RESPONSE TO THE PROPOSED WINDFARM TO BE POTENTIALLY ERECTED IN NANTUCKET SOUND.
WHILE I UNDERSTAND FULLY THE PROS AND CONS, I FIND IT HARD TO BELIEVE THAT WE WOULD EVEN CONSIDER GIVING THIS SPECTACULAR RESOURCE TO A SINGLE DEVELOPER WHO WILL CHANGE THE FACE OF ONE OF THE MOST BEAUTIFUL PLACE IN THE WORLD, TO BE USED FOR HIS/THEIR OWN USE.
HOW CAN WE DO THIS !
WOULD WE CONSIDER THE SAME PROPOSAL IN NEW YORK HARBOR SURROUNDING THE STATUTE OF LIBERTY OR ON A VAST STRETCH OF THE RIM OF THE GRAND CANYON, OR AROUND OLD FAITHFUL IN YELLOWSTONE PARK? THEN WHY AND OR HOW COULD WE CONSIDER THIS LOCAL SPECTACULAR LOCATION TO BE TREATED DIFFERENTLY.
WHY CAN THIS NOT BE POSITIONED IN A LOCATION THAT IS FAR LESS DETRIMENTAL THAN NANTUCKET SOUND? WHY NOT PLACE THIS ON THE GROUNDS OR CAMP EDWARDS WHERE IT WOULD BE FAR LESS OF A DETRIMENT THAN THE PROPOSED LOCATION AND MAY EVEN, HARD TO BELIEVE, BE IN A BETTER LOCATION FOR THE LAND IT IS ON.
PLEASE DO NOT DO ALLOW THIS TO HAPPEN! I WOULD NOT OBJECT TO LOOSING THE PENNIES THAT THIS IS PROPOSED TO SAVE ME ON MY ELECTRICAL COST.
THIS IS A SERIOUS MISTAKE AND SHOULD NOT BE CONSIDERED.
THANK YOU,
MICHAEL SHERMAN

1759

Adams, Karen K NAE

From: Paul Noble [Paul.Noble@comcast.net]
Sent: Thursday, December 09, 2004 5:06 PM
To: Energy, Wind NAE
Subject: Comments on Draft EIS for Cape Wind WTG proposal

To: Karen Adams, Project Manager, Regulatory Division

I am opposed to the proposed wind turbine generator installation by Cape Wind Associates and ask that the Corps of Engineers deny their permit application.

SAFETY HAZARD

I am a Nantucket resident, private pilot and airplane owner, recreational fisherman and boat owner, and frequently traverse the Horseshoe Shoals area by air and water. Horseshoe Shoals is bisected by my normal flight path from Norwood Memorial Airport to Nantucket Memorial Airport, a route I travel frequently. In the eminently possible future event that I or any other pilot or boater require rescue in the area of the proposed WTG installation, logic dictates that the risk to life of the person being rescued and those performing the rescue is dramatically increased. Imagine a helicopter attempting to retrieve a critically injured person from the water from a height of approximately 100 feet, the maximum height practical for such activity, amidst a forest of towers and rotating fan blades. Whether an airplane or boating accident, someone unfortunate enough to find themselves in need of rescue in the area will likely die. It's only a matter of time.

'CAPE WIND' DOES NOT OWN THE PROPERTY

I object to any company being allowed to appropriate property owned by the public for its private use. Lack of legislation that mandates a fee to be paid for the use of the property should not confer ownership rights on whomsoever chooses to develop it. As a taxpayer and therefore part owner of the property, I find it impossible to distinguish the fee-free use of my property for a commercial use from theft in broad daylight, any permit process notwithstanding. For this reason alone the permit should be denied. They do not own the property they wish to develop for their profit.

Thank you for your consideration.

Paul E Noble Jr
42 Weweeder Avenue
P.O. Box 156
Nantucket, MA
02554-0156

1760

Adams, Karen K NAE

From: Audrey Schulman [Audrey@AudreySchulman.com]
Sent: Thursday, December 09, 2004 3:42 PM
To: Energy, Wind NAE
Subject: Cape wind

Cape Wind would help my children's future. I have a 2- and a 4-year-old. Unless we Americans start to change how we meet our energy needs, by the time my children are middle aged, the world will by strongly changed by global warming. Our New England weather will become more extreme and variable: with more droughts, heat waves, higher rain and snowfall, extreme cold waves and tropical diseases brought North by the increased heat. Our native wildlife, shores, forests and economy would suffer tremendously. Heat waves alone are terrifically dangerous to children and the elderly.

Cape Wind would be the first offshore US wind farm, generating enough renewable energy to meet 75% of Cape Cod¹s electricity needs. Nantucket Sound is the windiest and most shallow sound along the US¹s east coast. If a wind farm won¹t work here, where could it work?

The scientific review process shows Cape Wind wouldn¹t hurt tourism, birds, fish or fishing. We do know however that global warming will damage all of those severely.

Because of the Iraq war, my sons¹ future are already in hock to the financial excesses of the Bush administration, as well as to politically unstable regimes around the world. We don't need so much foreign oil. It seems common sense to instead support American-made energy that helps to steward this magnificent earth that we have all inherited, the earth that my sons will need for their future.

Thank you,

Audrey Schulman
21 Acorn St.
Cambridge MA 02139

1761

Adams, Karen K NAE

From: Austinreprop@aol.com

Sent: Thursday, December 09, 2004 2:48 PM

To: Energy, Wind NAE

Subject: RE: WINDFARM

I want to voice my opposition to the proposed windfarm off of Martha's Vineyard.
What a tradgidy to consider ruining the natural beauty of our shoreline.Please take my voice into consideration and DO NOT ALLOW IT!!
Thank you
Susan Austin

1762

Adams, Karen K NAE

From: Ed Abrams [eabrams@aldesign.com]
Sent: Thursday, December 09, 2004 2:24 PM
To: Energy, Wind NAE
Subject: Cape Wind

I would like to voice my opinion on the Cape Wind project. The project, as proposed, desecrates an historic and unique landscape. Especially in in the Northeast there are a shortage of wild natural landscapes. Nature is a necessary resource for all members of society. To give away such a valuable public resource to a profit making company is wrong. If our federal, state, and local governments placed more emphasis on the promotion of public transportation and energy, the need for more energy would be lessened.

Ed Abrams
80 Wendell Street
Cambridge, MA 02138

1763

Adams, Karen K NAE

From: Joshua Liska [jliska@brydenandsullivan.com]
Sent: Thursday, December 09, 2004 2:09 PM
To: Energy, Wind NAE
Subject: Wind Farm Nantucket Sound

As a life long Cape Codder and an environmentalist I vehemently oppose the development of the wind farm in Nantucket sound. No one should be allowed to develop our beautiful coastline and visually pollute it. Furthermore any such development should be subject to a vote by the residents of Cape Cod & the Islands. I would rather have the smell of the Mirant owned Cape Cod Canal power plant than the ruination of Nantucket sound. An enormous mistake was made by allowing the Boston outfall pipe and it cannot be stopped. This wind farm project must be stopped! I implore you to consider the strong feelings of the majority of Cape Cod (and island) residents that are opposed to this wind farm!

Joshua Liska
225 Satucket Rd
Brewster MA 02631

1764

Adams, Karen K NAE

From: Kerrigan, Michael [Michael.Kerrigan@adeccona.com]
Sent: Thursday, December 09, 2004 1:30 PM
To: Energy, Wind NAE
Subject: Wind farm

Heard from a friend that you where looking for support. I would support an windfarm.. Not sure if this help but figured it couldn't hurt the cause.

Michael Kerrigan

1765

Adams, Karen K NAE

From: Appraiserma@aol.com
Sent: Thursday, December 09, 2004 11:51 AM
To: Energy, Wind NAE
Cc: candv@adelphia.net
Subject: Assessment Responsibilities

Who will be the taxing authority to bring taxes into the communities or the county in the event this is approved. The corporate county borders end at either the high or the low mean tide. Will the communities have rights to tax this project. Has the MA Department of Revenue been asked to project an assessment for this project. Is this project requesting subsidies or exemptions from being assessed.

Will the communities, county or state have the first right of refusal to buy this project. Is there insurance company insuring this project in the event the contractor/developer fails to complete the project.

Kevin Spellman, Weymouth, MA

1766

Adams, Karen K NAE

From: J. F. Turnbull [jturnbull@cybernautech.com]
Sent: Thursday, December 09, 2004 11:19 AM
To: Energy, Wind NAE
Cc: bdaley@globe.com
Subject: Attn: Mrs. Karen Kirk Adams

Dear Mrs. Adams:

First let me commend you, Mr. Rosenberg, Col Koning, and Mr. Hunt for how well the Open Hearing that I attended in West Yarmouth was organized and run!

I do have one serious objection however. You all went to great pains to emphasize that the meeting was for receiving public comment and that a final decision has NOT YET BEEN REACHED. The first two citizens of the Commonwealth to offer comment were Mr. Romney, Governor of the Commonwealth, and Mr. Reilly, Attorney General of the Commonwealth. Their comments were NOT impartial words of welcome. Their comments were very definitely in opposition to Cape Wind. THEY BOTH WERE ALLOWED TO SPEAK FROM THE PODIUM AND WITHOUT TIME LIMIT. All other comments by citizens had to be made from the auditorium floor and were limited to two minutes. This gave prejudice to ONE OPINION. Should the Governor or Attorney general choose to appear at the hearing in Cambridge on Dec 16. they by all means have the right, as does any citizen. If they do so, I strongly suggest that they warrant no greater privilege before a public hearing of the Army Corps than any other citizen. This may be viewed by them as degrading, but democracy has rules and principles and within the context of a public hearing before the Army Corps, in offering comment and opinion, they have no more right to a special platform than any other citizen.

I do not have any objection to their being allowed to speak first in consideration of their schedules and the fact that they quite possibly expressed interest in testifying earlier than the rest of us did.

Sincerely,
Joseph Turnbull

Joseph F. Turnbull
CyberNauTech, Inc.
Business Development Guidance
in High Tech Environments
19 Black Oak Rd.
Wayland, MA 01778
Ph: (508) 358-9596
FAX: (508) 358-9597

1767

Adams, Karen K NAE

From: Robert Houton [robbahoo@yahoo.com]
Sent: Thursday, December 09, 2004 12:28 PM
To: robbahoo@yahoo.com
Subject: Stop the Wind Farm!! Virginians Against the Windfarm!!

Please call US Sen. John Warner and ask him to STOP the Windfarm Project proposed for Cape Cod. The Senator's staff can be reached at Phone: (202) 224-2023.

Senator Warner has great influence over the Army Corp of Engineers as Chair of the Armed Services Committee.

Sen George Allen can be reached at (202) 224-4024.

Thank you.

December 9, 2004

Karen Kirk Adams
Cape Wind Energy Project EIS Project Manager
Corps of Engineers

CC: Susan Magill, Chief of Staff, Sen. John Warner
Mike Thomas, Chief of Staff, Sen. George Allen

The Honorable John Warner (R - VA)
225 RUSSELL SENATE OFFICE BUILDING WASHINGTON DC 20510

Phone: (202) 224-2023

The Honorable George Allen (R - VA)
204 RUSSELL SENATE OFFICE BUILDING WASHINGTON DC 20510

Dear Ms. Kirk:

I am mobilizing "Virginians for the Environment" in opposing the wind farm off Nantucket island. I will seek all the publicity I can garner to stop this proposed project.

Here are the reasons why:

• It is a visual pollution of a national, natural treasure.

• It is a hazard to mariners, to the extent that a representative from the Steamship Authority likened it to a accident waiting to happen. The presence of all those towers will significantly restrict the maneuverability of vessels in that are in bad weather. And if we should have another winter like these last two - the ice build up between the platforms of each tower will make those waters nonnavigable.

• It is a hazard to aircraft - specifically to those

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general aviation aircraft flying VFR in situations which suddenly turn IFR.

• It is a danger to the habitat of marine life in that area and a disruption to the environment.

• It is a hazard to wildlife, especially birds. One individual in favor of the project said that no more birds would be killed than those killed flying into a skyscraper - but since when did we have skyscrapers in the middle of the Sound/

• It poses an economic disruption to a region of the U.S. that derives a good portion of its income from tourism associated with maritime pleasures. We don't buy the argument that people will travel to our area just to view the windfarm.

Sincerely,

Robert Houton
Falls Church, Virginia

1760

Adams, Karen K NAE

From: upper cape vineyard realty [uppercape@adelphia.net]
Sent: Thursday, December 09, 2004 12:26 PM
To: Energy, Wind NAE
Subject: windfarm in Nantucket Sound

The worlds biggest wind farm. Great idea but not on Nantucket Sound. This technology is still developing and should be placed on dry land where it can easily be tweaked. It just does not make any sense to place this wind out in the ocean over some of the best fishing grounds on earth. Just think of the maintenance costs as compared to the same situation on land.Everything that is near (nevermind on) salt water deteriorates faster and would need constant maintenance . I have lived on Marthas Vineyard for over 20 years and everything from cars to doorknobs needs a lot of extra care due to the corrosive effect of the salt air. All of these uneccassary extra costs due to this poor location will be passed on to the taxpayer. This makes no sense. Sincerely Joseph Barkett P.O. Box 802 Edagrtown, Ma 02539

1769

Adams, Karen K NAE

From: Janna Cohen-Rosenthal [jannacr@envirocitizen.org]
Sent: Thursday, December 09, 2004 11:02 AM
To: Energy, Wind NAE
Subject: Bring Cape Wind online!

December 09, 2004

Karen Kirk-Adams
U.S. Army Corps of Engineers, New England District
Cape Wind Energy EIS Project
696 Virginia Road, Concord, MA 01742

Cape Wind Energy EIS Project

As a resident of Massachusetts, I was very excited to hear about the Cape Cod Wind Energy project. The pubic benefits are indeed compelling. I want to see Massachusetts become a successful example of moving towards a clean energy future.

The project will have minimal impact on fishing, boating and tourism. The wind park will bring high-paying jobs to the area, and I urge the Army Corps of Engineers helps to bring Cape Wind into operation quickly and safely.

The visual impacts will be minimal, and with some wind projects, tourists actually travel to see the wind farms.

As an environmentalist, I support the project whole-heartedly. The turbines will have little impact on birds -- according to the American Wind Energy Association, windows pose a greater threat to avian life than wind turbines. Wind power can replace fossil-fired generation, improving the air quality in the Northeast.

Sincerely,

Janna Cohen-Rosenthal
50 Weston St
Waltham, MA 02453-7759
USA
jannacr@envirocitizen.org

1770

Adams, Karen K NAE

From: Kathleen Feldstein [kathleen@nber.org]
Sent: Thursday, December 09, 2004 10:24 AM
To: Energy, Wind NAE
Subject: Fwd: Cape Wind Associates proposal

Date: Thu, 09 Dec 2004 10:02:16 -0500
To: wind.energy@usace.army-mil
From: Kathleen Feldstein <kathleen@nber.org>
Subject: Cape Wind Associates proposal

I would like to lend my support to the opponents of the Cape Wind Associates proposal. As I understand it, this project would be the country's first offshore wind project. Why would the first such project be proposed for one of the country's most scenic seascapes? We cannot know the **unintended side effects** of a wind project. For that reason, the first experiment should take place in a remote part of the shoreline where there would be no damage to the enjoyment of thousands of residents and tourists annually. After sufficient time elapses to assess side effects (including especially environmental impact), it would be appropriate then to consider whether or not to expand wind projects more broadly. Not only would there be better data on the financial costs and benefits, but the non-financial implications would become more clear. This project should be turned down at this time.

Thank you for considering my comments. Kathleen Feldstein, Ph.D. (econ, MIT)

1771

Adams, Karen K NAE

From: Walter Sangree [sangree@comcast.net]
Sent: Thursday, December 09, 2004 10:14 AM
To: Energy, Wind NAE
Subject: letter to Wind.energy@usace.army.mil

Walter H. Sangree
P.O. Box 1290
Nantucket, MA 02554
sangree@comcast.net
8 Dec., 2004
9..12.04
Copy of a letter I sent to
Wind.energy@usace.army.mil Walter H. Sangree
P.O. Box 1290
Nantucket, MA 02554
sangree@comcast.net
8 Dec., 2004
U.S. Army Corps of Engineers
New England District
Cape Wind Energy EIS Project
Attn: Karen Kirk Adams
696 Virginia Road
Concord, MA 01742

1772

Adams, Karen K NAE

From: gary ritter [garyjritter@yahoo.com]
Sent: Thursday, December 09, 2004 9:50 AM
To: Energy, Wind NAE
Subject: wind farm

To whom it may concern,

I am a recent UMASS college graduate and coastal Massachusetts resident who has been studying renewable energy particularly wind farms for about a year now. Everyone realizes the major problem in the depleation of our natural resources such as gas and oil, but I have seen minor action taken. Although there are many more wind farms now than there was several years back throughout the country, I see the cape wind farm to be somewhat of a turning point in America's charge for renewable energy. Over the past couple of years, particularly in the last few months is has gained a great deal of national media coverage between legislation and personal interests.

This is a letter in favor of the wind farm. I grew up and currently live on the ocean and lately I have pictured what it would be like to look out over the ocean from my house and see tubines on the horizon. I would be willing to take that minor loss for the amount of good it would do for my community. Renewable energy is the inevitable future. I hope the correct decision is made.

Thank you,
Gary J. Ritter

1773

Adams, Karen K NAE

From: lampert [lampert@adelphia.net]
Sent: Thursday, December 09, 2004 9:28 AM
To: Energy, Wind NAE
Subject: TESTIMONY IN FAVOR OF CAPE WIND - pasted/attached

For more information visit www.pilgrimwatch.org

Pilgrim Watch

December 7, 2004

Karen Kirk-Adams
Cape Wind Energy Project EIS Project Manager
U.S. Army Corps of Engineers, New England District
696 Virginia Road
Concord, MA 01742-2751
Email wind.energy@usace.army.mil

TESTIMONY IN FAVOR OF CAPE WIND

My name is Mary Lampert. I am the Director of *Pilgrim Watch*, a grassroots organization that serves the public interest in issues regarding the Pilgrim Nuclear Power Station in Plymouth, MA. I am a resident of Duxbury, Massachusetts - a town located just north of the Cape Cod Canal.

I am testifying in favor of the project. It will provide a significant amount of renewable energy to New England - energy that will be safe, clean and economical. This is in sharp contrast to energy provided by fossil fuels and nuclear power - energy that is dangerous, dirty and expensive.

The DEIS spends considerable time analyzing the benefits of the Wind Farm in comparison to fossil fuel generators. However, it is silent in regard to nuclear power. We request that a section is added to the DEIS that analyzes precisely how the Wind farm can offset the nuclear power issues discussed below - safety (terrorism/accidents/consequences); nuclear waste; pollution (review health effects low-level radiation exposure from nuclear reactors); global warming; marine impacts from once-through cooling; other environmental impacts; economic impacts; international security.

This is especially important because the Cape and SE Massachusetts are directly impacted from two generators - Canal Electric Company in Sandwich and Pilgrim Nuclear Power Station in Plymouth. Prevailing winds blow emissions from both of these generators towards the Cape from September to May; and coastal winds are variable making the Cape downwind on many summer days, too. The Pilgrim Nuclear Power Station will seek a re-license to extend operations until 2032. We do not want or need this. The Bush Administration sees, and is subsidizing, nuclear and fossil fuel electric generation as the answer to our future energy needs. It is

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the wrong answer. Safer and cheaper sources of power are available - like Cape Wind. The record needs to be set straight.

Variables to Compare Cape Wind to Pilgrim Nuclear Power Station and Canal Electric (Fossil Fuel)

1. Dangerous

Considerations

Nuclear reactors are insured by the Price Anderson Act for the lion's share of liability resulting from a serious accident - you, the taxpayer, pays. If they were so safe, why don't they pay for their own insurance? In contrast the Wind Farm will pay for their insurance.

Your homeowner's policy will not cover against damages from a nuclear reactor accident. In contrast there are no exemptions from an accident at the Wind farm.

Terrorism

Pilgrim: Nuclear power plants are on the terrorists target list. We have been told this by our President, the CIA and FBI. Pilgrim may be an especially attractive target for its symbolic value - located in "America's Hometown." Pilgrim is vulnerable to an attack from the air from either a small plane loaded with explosives or larger aircraft targeting the main reactor or softer support structures such as the Control Room, diesel generators or spent fuel pool; from the water, for example, from an explosive sent up the intake canal; and/ or from the land.

Wind Farm: Who seriously is worried about a terrorist attacking the Wind Farm?

Accidents

Accidents result from not only terrorists but also from acts of malice, aging parts or simply human error. What is important is not the probability of an accident or attack but comparing the consequences.

Pilgrim: The consequences of an accident at a nuclear plant make the risk unacceptable. Example: Conservative federal studies estimate that a core melt at Pilgrim would result in 3,000 peak early fatalities (within 20 miles) and 30,000 peak early injuries (within 65 miles) in the first year.[1] A spent fuel accident would be many times worse - an accident with "unfavorable winds" could contaminate 25,000 square miles, an area 3 times the size of Massachusetts. Pilgrim's spent fuel pool is far more vulnerable to attack than the core. It is elevated, vulnerable from 3 sides; outside primary containment; and it has an unsubstantial roof overhead.

Wind Farm: The consequences of an accident at the Wind Farm are negligible - no comparison.

Because the consequences of an accident or attack at Pilgrim are so dire and terrorism is a long term situation, we must move forward quickly with this safer alternative.

2. Dirty

Pilgrim/Nuclear Power produces waste hazardous for thousands of years with no sure place to safely store it. Even if Yucca Mountain is licensed, it will take decades

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to transfer current waste there; and, more important with re-licensing old plants and building more, Yucca will reach capacity simply by the waste generated by 2013. Therefore, with no place for Pilgrim's waste to go, Plymouth and other sites will remain dangerous and ever-growing radioactive dumps - providing terrorists with lethal targets and storing these poisons on an eroding coastline subject to severe storms.

Wind farm: it does not produce waste poisonous for hundreds of thousands of years.

3. Polluting

Pilgrim: Reactors release radioactivity to the air and water as part of normal day-to-day operation. Studies show that low, constant levels of radiation exposure cause cancer and genetic mutations. Example: the footprints of radiation-linked disease can be seen in communities surrounding Pilgrim - elevated rates of leukemia and thyroid cancers. Cape Cod has some of the highest cancer rates in the state. Studies have been done to find out why. Six environmental variables were studied and although they all were found to contribute - they did not provide the whole answer. Neither Pilgrim nor the Canal Electric generator was included in the study as variables - a political, not scientific decision. Clearly they should have been included.
Pilgrim, for example, had high releases and blew its filters in 1982. A meteorological study was commissioned by the state - Meteorological Analysis of Radiation Releases For the Coastal Areas of The State of Massachusetts For June 3rd to June 20th 1982 By Professor William T. Land. The study concluded that

> June 3rd, 1982 and again on June 11th, releases of radiation were reported to have occurred from Pilgrim Nuclear Power Plant located in Plymouth, Massachusetts. During the next seventeen days meteorological events kept the releases that were vented on shore and concentrated especially in the lowland areas within the 200 miles of the coast of Massachusetts.
>
> Unfortunately for the State of Massachusetts, the releases from the Pilgrim Nuclear Power Plant at Plymouth coincided with unfavorable meteorological conditions which created within the microclimate a worst-case situation. Because the 3rd and 20th of June there were very few hours of atmospheric cleaning, very little radiation could have entered the high altitude wind flow and most radiation releases were concentrated inland near population centers

Canal Electric Company: Canal Electric is a member of the "filthy five." The Filthy Five are five power plants in Massachusetts not required to meet modern clean air standards. Because they were built before 1977, when the Clean Air Act was implemented, these five plants were exempted by the Grandfather Clause. Thus, they now pollute about five times more than they would were they modern plants. This is harmful because these plants release Sulfur Dioxide, Nitrogen Dioxide, and Mercury into the atmosphere, causing the air that we breathe to be seriously unhealthy. Recent state action required these plants to reduce emissions 50-75% by 2008 - not 100% - although the exact timeline is somewhat in question as the plant owners filed a court appeal arguing that DEP didn't have the authority to regulate these issues. There have been settlement discussions for the past year, and it looks like a compromise regarding timing of clean-up will be reached. The long and short of it is that Canal Electric pollutes now and will continue to do so in the future.
Wind farm: Does not emit pollution or any poisonous substance. The DEIS found that the project will lead to improved air quality.

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4. Global Warming

Pilgrim/Nuclear: Proponents of nuclear power incorrectly argue that since the nuclear fission process emits no carbon dioxide, increasing nuclear power production can help address global warming. An analysis of the entire nuclear fuel cycle reveals that nuclear power does result in carbon dioxide emissions from mining, fuel enrichment and plant construction. Uranium mining, in fact, is one of the most carbon intensive industrial operations. Add all the CO2 emissions up and nuclear power releases 4-5 times more CO2 per unit of energy produced than renewable energy sources like wind and solar.
Canal Electric: As stated in the previous section, it produces the very greenhouse gasses that cause global warming.
Wind Farm: The DEIS found that the Wind Farm would result in reductions in heat-trapping gas emissions from other New England power plants.

5. Environment

A. **Marine**

Pilgrim is located on Cape Cod Bay - an economically important and delicate ecosystem. Pilgrim, like all nuclear reactors, generates too much heat. To remove excess heat, it draws in 487,840,000 gallons of water a day from Cape Cod Bay. Along with the water, Pilgrim sucks in fish eggs and other microscopic organisms; larger fish get pulled in by the current too and become trapped on intake screens and suffocate. The marine life that is drawn in gets pulverized by the reactor condenser system and emerges as sediment that clouds the water around the discharge area, often blocking light from the ocean floor - creating a desert on the ocean floor. The sediment cloud results in killing plant and animal life by curtailing the light and oxygen needed to survive. The water that is drawn in cycles through and is then released at temperatures 30 degrees above Bay temperature (62F to 100F) - disrupting the ecosystem. However, some organisms are attracted to the warmer environment. But when the reactor is abruptly shut down, water temperatures will drop causing cold-stunning, fatal to fish acclimated to warmer waters.

Canal Electric: Canal Electric releases mercury into our atmosphere. Mercury contamination is one of the principle reasons that fish in our rivers, lakes and ponds should not be consumed.

Wind Farm: The DEIS draft found that there will be no substantial impact on commercial fishing activity or recreational fishing. In fact, the DEIS findings suggest that the turbines may enhance recreational fishing by creating an artificial reef.

B. **Animals/Birds/ Vegetation**

Pilgrim: Radiation is harmful to all living organisms; releases pollute vegetation, marine life, wildlife, farm and domestic animals - ending up on our dinner tables or in reported unusual tumors by local veterinarians.
Once-through-cooling (explained in previous section) kills marine life and effects the valued feeding grounds. For example, the Duxbury/Plymouth Bays Complex, within the boundaries of Plymouth, Kingston, and Duxbury, is one of the states largest natural embayments with approximately 10,233 acres of bay, 4,600 acres of mud flats at low tide, 800 acres of salt marsh, and 526 acres of beach. The total length of the shoreline is 55 miles, which includes 16 miles of barrier beach. Over the years the site has typically supported one of the largest tern colonies (5,000 pairs) in New England on Plymouth Beach, one of the largest heronries (over 400

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pairs) on Clark's Island, and significant numbers of migratory and wintering shorebirds and waterfowl. Piping Plover come to breed here.

The licensee's own Environmental Radiation Reports for 1982, for example, showed Cesium-137 (1,000,000) higher in vegetation samples from indicator farms .7 miles and 1.5 miles from the reactor - previous and subsequent reports indicate various levels of radioactivity in fish and vegetation samples.

Wind Farm: There will be some bird deaths from collisions with the wind turbines. However, the DEIS projects that bird mortality will not have a biologically significant impact on any bird populations. The risk to birds that people are most concerned about-the Roseate tern and Piping plover-is predicted to be especially small since they rarely fly over the proposed wind farm site. Some temporary displacement of birds is predicted during construction but once this facility is built bird nesting will not be greatly affected.

6. Economics:

A. **Cost of Electricity:**

Pilgrim's electricity, like all nuclear power, is expensive. Although the cost per kilowatt hour appears competitive, it is not. We pay the true costs of Pilgrim's power in hidden subsidies and taxes. No other electric industry receives such public largesse.

> Pilgrims Costs: Start with costs foisted on consumers when Massachusetts deregulated its electric market - the Electric Deregulation Act, 1997. These costs amount to over a billion dollars to be paid by all electric ratepayers over a ten year period for Pilgrim, irrespective of where your electricity comes from. These so-called "stranded costs" cover Pilgrim's owner's original bad investments and unpaid bills - the remainder of Pilgrim's construction costs and unpaid and expensive repair bills. Included, too, are some costs going forward - such as a hefty chunk of annual tax payments to Plymouth and decommissioning or clean up costs when the reactor finally closes.
> Other hidden costs that you pay include, for example: liability insurance; waste disposal; and, external costs resulting from environmental damage and human disease and deaths that result from its operations.
>
> A 2000 report published by Stichting GroenLinks (the Dutch GreenLeft Party in the European Union) estimated that the "energy recovery time" for a nuclear power plant is about 10 to 18 years, depending on the richness of uranium ores mined for fuel. This means that a nuclear power plant must operate for at least a decade before all the energy consumed to build and fuel the plant has been earned back and the power station begins to produce net energy. By comparison, wind power takes less than a year to yield net energy, and solar or photovoltaic power nets energy in less than three years.

Wind Farm: In contrast the Draft EIS found that the Wind Farm's energy would lower regional electric prices saving money on electricity bills ($25 million annually), and enable Massachusetts to comply with its renewable energy standard at a reduced cost.

B. **Property Values**:

Pilgrim: Pilgrim is located on prime ocean front property 30 some odd miles south of Boston - nearby houses are a bargain considering their location, for obvious

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reasons.
Consider the negative impact on property values in a 25-50 mile radius if there is an accident or terrorist attack on any US reactor and, especially, on Pilgrim.

Wind Farm: Draft EIS found no evidence wind farm developments harm property values

C. **Tourism:**

Pilgrim: Who seriously believes many families would choose to come to visit the Mayflower, a stone's throw from Pilgrim, or to Cape Cod if, let's say, Indian Point was attacked or the Millstone Nuclear Plants in Connecticut was the next TMI?

Wind Farm: Draft EIS found that it would have a positive effect on tourism by studying effects on off-shore farms in Sweden and Denmark and on-shore farms in the US - Vermont , for example.

7. International Conflict

Cape Wind will help take our country down the road to wean us from dependence on fossil fuel in the Middle East and other foreign nations and a future plagued by international conflict; and wean us from the proliferation of nuclear power which means the proliferation of nuclear weapons. Nuclear power produces weapons grade nuclear material and the technological know-how to produce these weapons of mass destruction. Every year, every current US nuclear reactor, on average, produces enough plutonium to make 40 nuclear bombs. All of this must somehow be stored, safe from any potential terrorist. The security threat would be colossal if nuclear power were used extensively to address climate change and our energy needs.

Conclusion

It is abundantly clear to us that we are faced with a choice - either to continue with electric generation that is dangerous, dirty and costly or to take this opportunity to approve an electric energy source that is safe, clean and cheap and helps wean us away from dependence on fossil fuel in the Middle East and a future plagued by international conflict. We support Cape Wind.

Submitted by,

Mary Lampert - Pilgrim Watch
148 Washington Street
Duxbury, MA 02332
Tel 781-934-0389/ Fax 781-934-5579
Email Lampert@adelphia.net

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[1] Calculation of Reactor Accident Consequences U.S. Nuclear Power Plants (CRAC-2), Sandia National Laboratory, 1982. "Peak" refers to the highest calculated values - it does not mean worst case scenario. This is due to uncertainties in the meteorological modeling acknowledged by Sandia. The model only considered one year's worth of data and does not model for precipitation beyond a 30-mile radius. This is significant because the highest consequence is predicted to occur when a radioactive plume encounters rain over densely populated area. Peak Early Fatalities are deaths that result within the first year. Peak Early Injuries are radiation-induced injuries occurring in the first year that require hospitalization of other medical attention - such as sterility, thyroid nodules, vomiting and cataracts. Peak Cancer Deaths are predicted to occur over a lifetime. However, this is not the case with

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leukemia which is assumed to have occurred within the first 30 years following the accident.

1774

Adams, Karen K NAE

From: Dldcapecod@aol.com

Sent: Thursday, December 09, 2004 9:31 AM

To: Energy, Wind NAE; senator@kennedy.senate.gov; john_kerry@kerry.senate.gov; William.Delahunt@mail.house.gov; goffice@state.ma.us

Subject: Re: I'm Opposed to Proposed Wind Project Nantucket Sound

12.9.04

Nantucket Sound is, perhaps, the only thing left on Cape Cod that we haven't developed. Couldn't we have just one part of the Cape that is safe from industrial plants, overdevelopment, oil storage tanks, and huge
structures looming on the horizon? I'm opposed to a private developer having the ability to intrude on this public treasure. Please, please do not allow this project to go forward. Can't we find an inland piece of land that would be a more appropriate site? And if we are so committed to clean energy, why haven't we enforced clean air policies with the Mirant Plant?

This is NOT a NIMBY letter. In fact, it's a **YIMBY** letter. Yes, build a wind farm on Cape Cod. Build several. And **Y**es, **I**n **M**y **B**ack **Y**ard -- about 3 miles inland, in South Dennis. Or somewhere else on land. But please, do NOT build a wind plant in Nantucket Sound.

Sincerely,
Dorria DiManno
South Dennis, MA

1775

Adams, Karen K NAE

From: donandbarbarabrack@verizon.net
Sent: Thursday, December 09, 2004 9:22 AM
To: Energy, Wind NAE
Subject: Wind Farm

I attended the public forum in Yarmouth on Dec 7 and was unable to speak.

Due to my concerns about the state of our environment and the health consequences of using fossil fuels, I am a strong supporter of the proposed Wind Farm in Nantucket Sound. Your report was thorough and there is no need, in my view, for further review. I believe that it has been proven beyond doubt that the financial and health benefits far outweigh the slight altering of the horizon in certain parts of the Cape.

The opposition to this project is well-funded by a very few very wealthy shore line, part-time, Cape second home owners. They are well-organized and loud but I do not believe that they represent a majority opinion. I was dismayed that Gov. Romney and Tom Reilly, as well as other self-interested politicians, took up so much of the public comment time. They should be listening to us, instead.

Sincerely,
Barbara Brack
Yarmouth Port

1776

Adams, Karen K NAE

From: jeff and michael [jmkms@juno.com]
Sent: Thursday, December 09, 2004 8:47 AM
To: Energy, Wind NAE
Subject: comments in support of cape wind farm

cape wind testimony.doc

Date: December 8, 2004

To: Army Corp of Engineers

From: Jeff Knudsen and Michael Schwartz
382 the Riverway #8, Boston, MA 02115 and
39 Bradford Street #4, Provincetown, MA 02657

Subject: Comments In Support of the Proposed Nantucket Sound Wind Farm

We are writing in support of the proposed Nantucket Sound Wind Farm. We are part-time, seasonal residents and Cape Cod homeowners who welcome efforts to bring renewable sources of power to the Cape. We also believe that the developers of this proposed wind farm have worked very hard to minimize any potential harm to the environment, disruption to boating and fishing, or avian deaths.

Residents and visitors to Cape Cod are adversely impacted both by pollution from the mainland and emissions from the Cape Cod Canal power plant. Cape Cod also faces increased beach erosion, storms, etc. due to climate change brought on by the burning of fossil fuels. Wind is one of the cleanest sources of power currently available. We understand that the siting of any type of power generation facility (including wind and solar) is difficult. No site is ever "perfect" but this site will have little direct impact on residents and visitors. It appears that many of the opponents are motivated by esthetics—i.e. the wind farm would "spoil their view." We find this argument not to be compelling when the great benefits of the wind farm and renewable power, in general are considered. Additionally, we would welcome a distant (or not so distant) view of these wind turbines on the horizon. There have been several small wind farms tentatively proposed for the lower Cape—we would wholeheartedly support those as well. We are always thrilled to see the wind turbine operating in Hull—as a matter of fact; wind farms in Denmark are tourist attractions in themselves.

Again, we strongly support the approval of this Wind Farm.

Thank you.

1777

Adams, Karen K NAE

From: Karl Weller [weller5@comcast.net]
Sent: Thursday, December 09, 2004 7:24 AM
To: Energy, Wind NAE
Subject: Fw: Cape Cod Wind Farm

With American military personal being killed almost daily in the Middle East, it amazes me how many of our local and regional politicians particularly ones that have strong environmental voting records can be so adamantly opposed to this project. Our involvement in the Middle East is directly related to our insatiable appetite for oil. We need their oil in a manner no different than a how a drug addict needs his or her drug of choice. We need to find more ways to become less dependent on Middle Eastern oil including the development and growth of renewable, environmentally friendly energy sources. I can't think of a better one than wind. You know as well as I do that the overwhelming reason for people fighting the project is simply the "not in my backyard syndrome" (NIMBY). From Ted Kennedy and John Kerry (Cape Cod residents) to Mitt Romney (wealthy contributors to his administration who live in the Cape or Islands), in spite of all the benefits to the area and country, they simply do not want to look out of their homes and see the wind mills (even if they are many miles away). If the wind farm was down in the Gulf of Mexico, Ted, John and Mitt would be all for it. What is interesting is that I along with many of my friends and associates do not view them as eyesores. When I travel in Germany or Holland, the wind mills have become part of the landscape and are quite visually pleasing. In fact, I have met very few Germans or Dutch that consider the wind mills visually unattractive. Over time they become part of the environment, no different than a tree, hill or house. I hear no one on my daily commuter boat to Boston commenting on how ugly the wind mill is in Hull. In fact, generally it is viewed as an attractive part of the local landscape. Bottom line, we need this wind farm. I hope that the Army Corp of Engineers, in spite of the political pressure form both the NIMBY's and the NIMBY funded politicians, does what is right for the area/country and allows the project to move forward!

Karl W. Weller

1778

Adams, Karen K NAE

From: Catherine and Donald Mayhew [islebyte@shell.gis.net]
Sent: Wednesday, December 08, 2004 9:52 PM
To: Energy, Wind NAE
Subject: Cape Wind Energy Project

I am a resident of the town of Tisbury on Martha's Vineyard.
I fully support the proposed Cape Wind Energy Project.

Catherine M. Mayhew

1779

Adams, Karen K NAE

From: Joy Shaw [gojoy.shaw@verizon.net]
Sent: Wednesday, December 08, 2004 5:51 PM
To: Energy, Wind NAE
Subject: Wind Farm

Dear Ms Adams,

I'm a strong proponent of green energy, green anything, but I am not in favor of the wind farm being proposed for Nantucket Sound. Obviously, the Cape Cod wind farm would be a great project for the Corps of Engineers, but it is the wrong one. There is no way a fleet of 130, 417 foot masts, with propellers on top, will resemble a sailing regatta. The return on energy does not warrant such a blight on the landscape, and permanent disruption of an environmentally fragile area. Maybe I am missing something, but it seems that installing 130 wind towers to the ocean floor would be astronomically expensive, not to mention, the maintenance. And, what happens if the project runs into financial difficulties while under construction or even later? Would there be a clause that made it mandatory for the developer to put things back (if that's possible) to the way they were? Before even considering a wind farm, the first step should be to revamp Canal Electric, and convert that plant into a clean and efficient producer of electric power.

I think it would be disastrous to have a wind farm in Nantucket Sound.

Sincerely,
Joanna Shaw

December 8, 2004

1780

Adams, Karen K NAE

From: Carroll & Vincent Real Estate [candv@adelphia.net]
Sent: Wednesday, December 08, 2004 5:26 PM
To: Energy, Wind NAE
Subject: Wind Farm

This is not the place to try an experiment on us. Wind farms are not yet tested in this country and this should not be the testing ground. This should be located away from the public and a much smaller number of windmills to start with.

I do not want this built here and I do not want this size built anywhere.

Jim Joyce
Edgartown MA
508-627-9605

1781

Adams, Karen K NAE

From: LEOLSON1@aol.com
Sent: Wednesday, December 08, 2004 4:06 PM
To: Energy, Wind NAE
Subject: (no subject)

The wind farm is a God send. Clean, renewable source that reduces our need to be in middle east. People who object are unamerican selfish fools. Power plants put unbelievable amounts of pollutants in air. View screw---Kennedy, Romney et al fools--fools---fools. Eric Olson

1782

Adams, Karen K NAE

From: Kevin Maguire [kmaguire@bsgfinancial.com]
Sent: Wednesday, December 08, 2004 12:49 PM
To: Energy, Wind NAE
Subject: Pro Wind Farm

To All Who this may concern (Karen Adams):

I pledge support for the proposed Nantucket Sound wind farm. We are long overdue and far behind where we should be as a nation and as a world with pursuit of renewable sources of energy. The hypocrisy of the myriad politicians and populace who have no **reasonable** substantiation for their opposition to this needed and prudent project is maddening. The majority of these public opponents are basing there vehemence for this project on perceived decreased aesthetic value. The environmental issues are being severally overblown by the opponents as substantiation for their actions.

I am a sailor who has sailed these very same waters many times and find that the far majority of the opposition populace would never know or never see if this wind farm was in the Sound or not. They are complainers who want supposedly what is right for Commonwealth and country but only if it does not impact them to the slightest. Their opposition is asinine, misguided and preventable. Preventable by the Army Corps of Engineers doing the right thing and making this project happen based on its true merits, not on the political merits that have been screwing up our Commonwealth for far to long. I imagine you are getting a lot of comments but I am happy to provide additional thoughts from a **rational point of view**, as what I read and see coming from the opponents of this project is far less than rational.

Kevin C. Maguire
40 Auburndale road
Marblehead, MA 01945
(781) 631-7622
kmaguire@BSGfinancial.com

1783

Adams, Karen K NAE

From: George Ward [g.ward@mail.comap.com]
Sent: Wednesday, December 08, 2004 11:03 AM
To: Energy, Wind NAE
Subject: C.C. Wind Farm

Army Corps of Engineers,

You have my whole hearted support for this project. To oppose the wind farm for aesthetic reasons while our dependence on Middle East oil grows more and more obscene is outrageous!

I am terribly disappointed in our Massachusetts elected officials, Gov. Romney and Senator Kennedy in particular, for their opposition to this unique opportunity. I live in Scituate, a South Shore ocean front community, and am familiar with the wind turbine in Hull, Mass. It is a quiet, graceful, engineering marvel, and a monument to clean energy independence. There is some research in process now , I believe, to bring one to Scituate and I welcome it.

With regard to Selectman Chuckie Green's comment about the wind farm, " It will change the ecology of the Sound". It sure will, and for the better! Having an off limits area with structure for fish habitat would be very welcomed addition to the Sound.

Please do not lose your resolve or be intimidated politicians who owe their allegiance to wealthy Cape Coders. People who can afford to worry about the minimal impact on the view instead of our ever increasing energy problems.

Sincerely,

George Ward
66 Indian Trail
Scituate, MA 02066
--
-George

1784

Adams, Karen K NAE

From: Heath Coker [vze2gjbx@verizon.net]
Sent: Wednesday, December 08, 2004 11:02 AM
To: Energy, Wind NAE; admin@saveoursound.org
Subject: To Karen Adams please

Karen Adams
Project Manager, Regulatory Division
ACOE
NE Dist.
696 Virginia Rd
Concord, MA 01742

Dear Ms. Adams

Please extend the public comment period for the DEIS for the Cape Winds Project to 180 days. The meetings that have taken place have not allowed the public to speak because of the huge numbers of those who wish to be heard on the issue. For example, almost 200 people tried to get on the list to speak in Yarmouth, but there was not time to hear them all.

Thanx,
Heath Coker
508-548-8888
Falmouth, MA

1785

~~1786~~

Adams, Karen K NAE

From: Mwrdny@aol.com
Sent: Saturday, December 04, 2004 9:03 AM
To: Adams, Karen K NAE
Subject: (no subject)

Stop the wind farm

1786

Tel message: December 8, 2004

Joanne Pasquez, 508-540-0424
Voiced objection to wind tunnels (sic). Unsightly. Doesn't see the point. Doesn't think it will save anything.

1787

Adams, Karen K NAE

From: MVITAL@ESCLAB.COM
Sent: Friday, December 10, 2004 12:57 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

missy vital
449 gardners neck rd
swansea, Massachusetts 02777

1788

Adams, Karen K NAE

From: leah@lorz.us
Sent: Friday, December 10, 2004 1:28 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Leah Raddish
1232 Southlyn Dr.
Dayton, Ohio 45409

1789

Adams, Karen K NAE

From: markgarmalo@excite.com
Sent: Friday, December 10, 2004 12:25 PM
To: Energy, Wind NAE
Subject: Massachusetts needs wind energy

Dear Sirs;

Wind power is a promising choice for Massachusetts' energy future. In the interest of energy independence, we need to ensure that the Cape Wind Project receives a prompt and thorough review that keeps the public interest at the forefront.

Thank You,

Mark F. Garmalo
Mark Garmalo
PO BOX 213
Greenfield, MA 013020213

1790

Adams, Karen K NAE

From: Jack Ubersax [ubers1@charter.net]
Sent: Friday, December 10, 2004 2:25 AM
To: Energy, Wind NAE
Subject: Cape Wind Project

Gentlemen:

As we look at this country's energy resources, it becomes increasingly obvious that we need to overcome our inertia and start to do things differently.

Fossil fuels cannot last forever. The need for electrical energy increases steadily. Photovoltaics show promise but the implementation of this energy source is progressing very slowly as the technology involved in the collection systems changes rapidly.

The Cape Wind project shows great promise and the technical aspects appear to have been very thoroughly worked out. I wonder what other rational arguments could be used against it, not already heard? We would labor for years, for example, to determine the effect on birds passing through the area involved, while nothing happens to move the project forward.

I urge you to assist all you can to advocate for the approval of Cape Wind so we can begin to realize its benefits.

Sincerely,

Jack Ubersax
10 Colonial Rd. Wilbraham, MA 01095
413 596-9881

Adams, Karen K NAE

~~#785~~

1791

From: Cook SK1 Kevin J [CookKJ@IMEFDM.usmc.mil]
Sent: Wednesday, December 08, 2004 7:23 AM
To: Energy, Wind NAE
Subject: Caoe wind project - input from a resident deployed to Iraq....

Cape Wind Energy Project EIS manager Karen K. Adams,
US Army Corps of Engineers, New England District,
Regulatory Division
696 Virginia Road
Concord, MA 01742-2751

Dear Ms. Adams,

I am utilizing the e-mail to send you my comments as I am presently on active duty with the US Navy Seabees in Iraq.

My Name is Kevin J. Cook, and I am a resident of Middleboro, MA and a summer resident of Cotuit, MA where my family has owned a home since the 1960's. I am an accomplished sailor, having learned how to navigate the waters in my own boat since I was about 89 years old.

I support the Cape Wind Farm project because it make sense for all the residents of our region. We need to develop clean sources of power for all of our citizens. It needs to be a resource that is readily available and in abundant supply. The Cape Wind Farm project meets all of these criteria.

Those who oppose this project are those who would like to see the waters off Cape Cod be off limits to any new ideas or uses other than having available to the few who can afford to use it as there exclusive playground. They are the land owners who believe they are the only ones who can say what is best for all the residents of this region.

The towers would become habitats for sea life to grow and gather. Any object that is placed in the water quickly becomes a home for small sea life, which in turn, attracts larger sea life in search of food. I believe that this would increase the number of sea life in this area, and provide habitats for them to live near.

I have seen the changes that have occurred over the Cape Cod area for the last 40 years. It has grown and it has changed. The changes are a natural part of the evolution of the area. Cape Cod was once a sleepy little part of the coastal area of Massachusetts but has become a suburb of Boston. The energy needs of this region will need to be met and this project offers one of the best ideas to do so cleanly and with an abundant local resource.

I appreciate your time and attention. I will look forward to following the progress of this important project when I get back to Massachusetts from Iraq in 2005.

Sincerely,

Storekeeper 1st Class Kevin J. Cook
US Navy Seabees, Iraq
Resident of Middleboro, MA

Dec 7, 2004

To U.S. Army Corps Engineers, 1792

I am concerned about several factors ~~of~~ the proposed Nantucket Sound Wind Farm.

1. How can <u>you</u> permit the Wind Farm above all others? I feel it is not a democratic proceedure. Those of us who must live with it have no real vote – except something like this probably meaningless letter. Why should one commercial business take the peoples' Nantucket Sound? How can you permit them to take what is not yours, but belongs to all people.

2. After so much our Gavernment does and misleads us about, as citizens, I am unable to believe

any facts you present.

Who knows what the Farm will do because it is a first.

Have any of you spent recreational time on Nantucket Sound? I am one of the desperate who does, indeed, compare this to putting a Farm on the rim of the Grand Canyon.

I am totally in favor of the need for wind power, so this is very difficult for me.

Sincerely,

Pamela Herrick
PO Box 1894
Orleans
MA 02653

MARINE POLLUTION BULLETIN
North American Editor: Dr John Pearce

2 XII 04

1793

Ms. Christine A. Godfrey, Chief
Regulatory Division
New England District, Corps of Engineers
696 Virginia Rd.
Concord MA 01742-2751

Dear Ms. Godfrey

I want to thank you for sending to me DAMOS Reports #153-9.
Would it be possible for you to send to me the draft report and associated documents (summarizations, etc) having to do with the Nantucket Shoals wind-mill "farm"?

I am not able to easily, and efficiently, record or recover such a large document via email. I would like to use the report in an article I am doing for the MPB. It has to do with comparison of "our" farm systems in with similar Ireland/Denmark.

Thank you and best for the Season,

Jack P.

Buzzards Bay Marine Lab
54 Upland Road
Falmouth, MA 02540, USA
Tel: (+1) 508 540 4572 Fax: (+1) 508 457 0105
E-mail: buzbay@cape.com

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1794

Adams, Karen K NAE

From: Joanne Hynes [joannehynes@yahoo.com]
Sent: Monday, December 13, 2004 6:01 PM
To: Energy, Wind NAE
Subject: Cape Wind Project

Dear Karen Adams,

I am a resident of Osterville, in Cape Cod. I've moved a lot in my life, as I assume you have with your profession. I've discovered I can actually love a "place" that I live in. Cape Cod, and Osterville in particular.

I am totally and completely against the Cape Wind Project. I honestly find it hard to believe it has gone this far without being shut down completely. There are so many reasons why this project should never be allowed to materialize, I'm surprised that I have to write this letter.

There are no federal laws for offshore wind energy.
The 24 square miles of land in contention is public.
All information I have read on wind farms designate 30 miles off shore as the closest possible consideration!
Our Nantucket Sound is a beautiful natural resource to be enjoyed by all, not an industrial complex!
This project would hamper all water vessels in the area, and that is considerable!
Air traffic for all airplanes would be put at additional risk due to the height of these towers.
The impact on our fishing industry will be sorely felt. Juvenile fish will die and full grown fish
will be forced to leave.
The public that is largely against this project will be paying Cape Wind to build it, in subsidies of up to $241,000,000!
Offshore wind costs twice as much as gas fired electricity and significantly more than onshore wind!
The loss of tourism due to the ugliness of the shoreline will cost the Cape thousands of jobs and money.
Property values will decline sharply in the entire Cape.
There would be radar interference on defense systems and aviation.
The flagship offshore project in Denmark is failing.
Actual wind speed data is needed to verify output of energy.
The TRUE benefits of this project are not determinable at this time!

Please, please, please do not let this happen to our Cape!

JoAnne Hynes
324 Bridge Street
Osterville, Ma 02655

1795

Adams, Karen K NAE

From: Michael Dalterio [m.dalterio@comcast.net]
Sent: Monday, December 13, 2004 5:58 PM
To: Energy, Wind NAE
Subject: I support the Cape Wind Project

Dear people,

As a physicist, I am aware of many of the technical issues involved.

Petroleum resources are harmful to our environment in many ways, and will become increasingly difficult to acquire.

We should begin to transition to the post-petroleum era ASAP, starting with this project!

The only viable criticism of this project is based on aesthetics.

Beauty is in the eye of the beholder. I have seen large wind farms in California and Wyoming. I think they are BEAUTIFUL!

Peace, Love, and Cheers,

Michael J Dalterio
652 Concord Road
Sudbury, MA 01776
m.dalterio@comcast.net

1796

Adams, Karen K NAE

From: Isobel Sturgeon [isobelk@earthlink.net]
Sent: Monday, December 13, 2004 6:34 PM
To: Energy, Wind NAE
Subject: Re: Cape Wind Report

My mailing address is: P.O. Box 460125, Fort Lauderdale, FL 33346-0125
Isobel
On Dec 13, 2004, at 4:38 PM, Energy, Wind NAE wrote:

> The Draft EIS is available on our web site (in downloadable segments)
> along
> with summary information. If you provide an address I can also mail
> the EIS
> to you on cd. The permit applicant is responsible for a large part of
> the
> cost to develop an EIS.
> http://www.nae.usace.army.mil/projects/ma/ccwf/windfarm.htm
>
> -----Original Message-----
> From: Isobel Sturgeon [mailto:isobelk@earthlink.net]
> Sent: Monday, December 06, 2004 5:52 PM
> To: Energy, Wind NAE
> Subject: Cape Wind Report
>
>
> To: Karen Adams, Project Manager
> Regulatory Division
>
> Dear Ms. Adams,
>
> I have read in the newspapers and on line about the Army Corp of
> Engineers' report on the proposed Cape Wind farm. I am concerned that
> the benefits of the wind farm do not outweigh the detriments to the
> community of Nantucket Sound. Is it possible to get a copy of this
> report? I understand that it is 4000 pages long. Therefore, perhaps I
> can go somewhere on line to read it (it is too large for me to
> download). Otherwise, perhaps you could mail it to me? Please let me
> know.
>
> Meanwhile, I hope that you understand that you must allow at least 180
> days for the public to read and understand this document.
>
> Furthermore, I will be writing to my congressman, Clay Shaw, of
> Florida, to let him know that I currently oppose the proposed wind farm
> and that I am amazed that taxpayer dollars were spent on a 4000 page
> report.
>
> Sincerely,
>
> Isobel Sturgeon
>

1797

Adams, Karen K NAE

From: Bernard Short [berniesh@bellsouth.net]
Sent: Monday, December 13, 2004 7:38 PM
To: Energy, Wind NAE
Subject: Cape Wind Project

I believe that we should utilize all available renewable energy sources that do not compromise the environment seriously. From what I see happening in the Cape Wind project is directly in opposition to what we should be encouraging. If the United States does not get behind these projects shame on us.

Bernard L. Short
1706 E Fisher Street
Pensacola, FL 32503
email - berniesh@bellsouth.net
Bernie Short

You see things; and you say, "Why?" But I dream things that never were; and I say, "Why not?"
George Bernard Shaw

1798

Adams, Karen K NAE

From: Reed, Darlene [dreed@capecod.edu]
Sent: Monday, December 13, 2004 7:32 PM
To: Energy, Wind NAE
Subject: Yes to Nantucket Wind Farm

As a resident of the town of Plymouth, I would like to express my total support of the proposed Nantucket Wind Farm. The benefits to our environment and thus, ourselves and especially our children far outweigh any of its negative aspects.

Darlene Reed

Bc1@cape.com

1799

Adams, Karen K NAE

From: mike girardin [mgirardin@comcast.net]
Sent: Monday, December 13, 2004 8:14 PM
To: Energy, Wind NAE
Subject: cape cod wind farm

Dear Person:
I would like to comment on the proposed Cape Cod Wind farm.
First I have not had a chance to read the report on the proposed facility and so these comments do not include facts for this project.

I feel that persons who are concerned with birds or other airborne animals have not seen or do not understand the operation of wind mills. These windmills are only turning as fast as the wind that is blowing. The blades are large enough and slow enough that no bird is going to hit them.

I question the concerns of the damage to the water life. The underwater structures are going to provide shelter to water life and help more fish survive feeding time of larger fish?

The complaints about what this is going to do to scenic views should be a very low concern. There are many wind mills in the Palm Springs area of California and the residents of that community have home prices similar to island areas of Massachusetts. If they don't like wind mills what is their position on smoke stacks from oil burning electrical plants with ocean going tankers pulling up frequently. Not to mention the higher price for electricity and the increased pollution.

Thank You:
Michael Girardin
Weymouth, Ma.

1800

Adams, Karen K NAE

From: carmenelisa@planet-save.com
Sent: Monday, December 13, 2004 9:05 PM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

CARMEN RICO
185 RUE BERLIOZ
Montreal, H3E 1C1
Canada

Adams, Karen K NAE

1801

From: zafiro.koty@mcgill.ca
Sent: Tuesday, December 14, 2004 6:27 AM
To: Energy, Wind NAE
Subject: Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

zafiro koty
18712 Thorburn
pierrefonds, H9K 1M8
Canada

1802

Adams, Karen K NAE

From: cotuit.goodwin [cotuit.goodwin@prodigy.net]
Sent: Tuesday, December 14, 2004 7:53 AM
To: Energy, Wind NAE
Subject: Cape Wind Project and Army Corp of Engineers

Dear Karen Adams,

This e-mail is in response to the **Cape Wind Project on Nantucket Sound**.

I know people who are passionately positive and negative about the proposal and I respect their opinions. I am somewhere inbetween.

I personally would like to hear about **compromise on both sides of the table.** It won't make anyone happy but at least there could be something in it for everyone. Why not **reduce** significantly the **size** and **number** of the windmills, putting them more in the center of Nantucket Sound so that there will be less visability from the shore (I live in Cotuit and see the night lights of Hyannis ten miles away) -- plus all the other often mentoned reasons not to let the project be built from Save our Sound. It makes little sense to let Cape Wind use (without payment) the **total** space available in the Sound. The fact that it is cost free is a big issue that should be factored into the equation.

In this day and age, I believe everyone in their heart is for alternative energies; so let's begin a process of both sides giving a little and perhaps, even feeling the good that comes from the process.

Margot Adams Goodwin
Post Office Box 1492
Cotuit, MA 02635
cotuit.goodwin@prodigy.net

Adams, Karen K NAE 1803

From: michele@micheleholland.com
Sent: Tuesday, December 14, 2004 8:40 AM
To: Energy, Wind NAE
Subject: Massachusetts needs wind energy

Wind power is a promising choice for Massachusetts' energy future. We need to ensure that the Cape Wind Project receives a prompt and thorough review that keeps the public interest at the forefront.

Michele Holland
5 Houghton Lane
Acton, MA 017202438

1804

Adams, Karen K NAE

From: Paula Myles [carefulhands@earthlink.net]
Sent: Tuesday, December 14, 2004 9:11 AM
To: Energy, Wind NAE
Subject: Wind Farm in Nantucket Sound

I fear that turbines in the Sound will greatly impact the birds in flight through that area. A spokesman from the Humane Society of the United States, Jessica Almy, has stated that the data chosen by the prospective developers' consultants are derived from land-based facilities, mostly in the West.

They predict an arbitrary bird- kill number which has little relevance to the true impact on an oceanic migratory path. The devastation to birds is likely to be far more than that predicted.

Further, she states that the development would have a much higher impact on marine mammals (whales, dolphins, bats) by than that projected by the National Marine Fisheries Service.

No one doubts the need for clean energy, but not at the risk of sacrificing such numbers of wildlife.

Sincerely,

Paula Myles
163 Main Street
Harwich MA 02645

OCEANS PUBLIC TRUST INITIATIVE

OPTI

A PROJECT OF EARTH ISLAND INSTITUTE

1805

December 9, 2004

Ms. R. M. Burton
Director, Minerals Management Service
1849 C Street, N. W.
Washington, D. C., 20240

Mr. Earl H. Stockdale
General Counsel for the
U.S. Department of the Army (Civil Works)
441 G Street, NW
Washington, DC 20314

Mr. Thomas L. Sansonetti
Assistant Attorney General
Environment/Natural Resources Division
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530-0001

Dear Ms. Burton, Mr. Sansonetti, and Mr. Stockdale:

I am writing to bring to your attention a report prepared by the Congressional Research Service (CRS) on the question of public trust property rights on the Outer Continental Shelf (OCS). See Attachment. By copy of this letter to Colonel Koning, I ask that this report and letter be included in the record of the Cape Wind DEIS proceeding.

On separate occasions, I have asked each of you, on behalf of the Oceans Public Trust Initiative (OPTI), whether the United States government considers a mere navigability permit under section 10 of the Rivers and Harbors Act sufficient to allow a private developer to use and occupy federal lands and waters on the OCS. I have also written to other officials with the Corps regarding this issue. As yet, I have not received a direct response to this question from any official with the federal government.

It is for this reason that I bring the report by the CRS to your attention. In the summary of the report, the author concludes that "there would appear to be no present mechanism for providing an applicant with the necessary property rights to begin construction." In the body of the report, the author also states, "It appears that no federal agency, including the Army Corps of Engineers, which permits structures only for navigability purposes, can authorize the occupation and use of OCS lands for wind and other renewable energy purposes under current law." CRS-12.

CINDY LOWRY, DIRECTOR • 233 WATER STREET #1 • HALLOWELL, MAINE 04347 • PH: 207.622.3587 • EMAIL: CINDYOCEANUS@AOL.COM

1805

In light of this analysis, OPTI again asks the federal government, in its capacity as trustee for the OCS to the benefit of the general public, the following question: "Will the United States protect the public trust interests in the OCS by advising the Cape Wind Associates that constructing its proposed offshore wind plant on the basis of a section 10 permit is illegal?" Alternatively, will the Army Corps of Engineers terminate its review of this, and all other section 10 permit applications for this purpose since such applications do not serve as a legally sufficient authorization for the proposed private activities?

I greatly appreciate your consideration of this critical issue and look forward to your response to these questions. These questions have gone unanswered for far too long. Thank you.

Sincerely,

Cindy Lowry

Cindy Lowry
Director, Oceans Public Trust Initiative

Cc: Governor Mitt Romney
Attorney General Thomas Reilly
Senator Edward Kennedy
Senator John Kerry
Congressman William Delahunt
Colonel Koning
Aaron M. Flynn, CRS

Order Code RL32658

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CRS Report for Congress

Wind Energy: Offshore Permitting

November 1, 2004

Aaron M. Flynn
Legislative Attorney
American Law Division

1805

Wind Energy: Offshore Permitting

Summary

Technological advancements and tax incentives have driven a global expansion in the development of renewable energy resources. Wind energy, in particular, is now often cited as the fastest growing commercial energy source in the world. Currently all U.S. wind energy facilities are based on land; however, multiple offshore projects have ben proposed and are moving through the permitting process.

It would seem relatively clear that the United States has the authority to permit and regulate offshore wind energy development within the zones of the ocean under its jurisdiction. The federal government and coastal states each have roles in the permitting process, the extent of which depends on whether the project is located in state or federal waters. Currently, no single federal agency is responsible for permitting activities on the submerged lands in federal waters, with regulatory authority allocated among various agencies based on the nature of the resource to be exploited. In addition to basic jurisdictional questions, it is not necessarily clear that current federal law should be interpreted to apply to offshore wind energy facilities or whether new laws will be needed.

The Army Corps of Engineers (Corps) has been exercising jurisdiction under the Rivers and Harbors Act and the Outer Continental Shelf Lands Act. Recently, in *Alliance to Protect Nantucket Sound v. United States Department of the Army*, a federal district court held that the Corps' jurisdiction under these laws was legally sound and upheld the Corps' decision to permit a preliminary data collection tower in federal waters. The reasoning of the court may be applied to the permitting of the larger-scale wind energy project itself, although the decision has been appealed and certain issues remain unresolved. Currently, it is arguable whether the Army Corps' jurisdiction extends to renewable energy projects in federal waters, and there would appear to be no present mechanism for providing an applicant with the necessary property rights to begin construction.

Several bills have been introduced in the 108th Congresses to address this issue, offering two distinct approaches to regulation. H.R. 793 would place authority for granting easements and rights-of-way on submerged federal lands in the hands of the Secretary of the Department of the Interior. Several versions of the Energy Policy Act of 2003, H.R. 6, and S. 2095, contain similar provisions. On the other hand, H.R. 1183 would place regulatory authority in the Secretary of the Department of Commerce by amending the Coastal Zone Management Act to allow specifically for renewable energy projects and the designation of ocean areas that would make suitable candidates for development.

This report will discuss the current law applicable to siting offshore wind facilities, the recent court challenges to the federal offshore permitting process, and the above-mentioned legislation that addresses offshore wind energy regulation. This report will be updated as events warrant.

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Wind Energy: Offshore Permitting

Technological advancements and tax incentives have driven a global expansion in the development of renewable energy resources. Wind energy, in particular, is now often cited as the fastest growing commercial energy source in the world.[1] Currently, unlike much of Europe,[2] all wind power facilities in the United States are based on land; however, multiple offshore projects have now been proposed, including the Cape Wind project off the coast of Massachusetts and Winergy's proposals off the coasts of Massachusetts, New York, New Jersey, Delaware, Maryland, and Virginia.[3] These projects are relatively large undertakings requiring substantial investment; proposed wind farms off the coast of Massachusetts, consisting of approximately 170 turbines, are estimated to cost between $500 million and $700 million.[4]

There are multiple policy questions related to the feasibility and relative attractiveness of developing wind energy; however, the focus of this report is the current law applicable to siting offshore wind facilities, including the interplay between state and federal jurisdictional authorities. This report will also discuss the recent court challenges to the federal offshore permitting process and recent legislation that would address offshore wind energy regulation. This report will be updated as events warrant.

Ocean Jurisdiction. The jurisdiction of coastal nations over the world's oceans extends across various adjoining zones by operation of international conventions and by the domestic laws and proclamations of individual governments. Jurisdiction over U.S. waters is divided into four functional areas:, the Territorial Sea, the Contiguous Zone, the Exclusive Economic Zone, and state-controlled waters. The federal government has differing levels of authority in each of these zones, vis-a-vis the states and vis-a-vis other nations. Even within these U.S. zones, all nations enjoy freedom of navigation and overflight as well as other internationally lawful uses of the sea, subject to the regulatory jurisdiction granted the coastal state

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[1] *See* U.S. DEP'T OF ENERGY & U.S. DEP'T OF THE INTERIOR, WHITE HOUSE REPORT IN RESPONSE TO THE NATIONAL ENERGY POLICY RECOMMENDATIONS TO INCREASE RENEWABLE ENERGY PRODUCTION ON FEDERAL LANDS at 6 (Aug. 2002).

[2] For an overview of offshore wind farm regulation in the United Kingdom, *see*, Nathanael D. Hartland, *The Wind and the Waves: Regulatory Uncertainty and Offshore Wind Power in the United States and United Kingdom*, 24 U. PA. J. INT'L ECON. L. 691 (2003).

[3] Betsie Blumberg, *Wind Farms: An Emerging Dilemma for East Coast National Parks, in* NATIONAL PARK SERVICE, NATURAL RESOURCE YEAR IN REVIEW–2003 63 (March 2004).

[4] Testimony of Attorney General Thomas F. Reilly, Subcommittee on Energy and Mineral Resources, Hearing Regarding HR 793, 108th Cong. (March 6, 2003) (*available at* [http://resourcescommittee.house.gov/108cong/energy/2003mar06/reilly.htm]).

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over such things as setting optimum fishing allowances.[5] It would seem relatively clear, however, that, generally, the United States would have sufficient jurisdiction over each of its zones to authorize the construction and operation of offshore wind projects.

U.S. authority as against other nations begins at its coast — called the baseline — and extends 200 nautical miles out to sea. The first twelve nautical miles comprise the U.S. territorial sea.[6] Under the 1982 United Nations Convention on the Law of the Sea[7] (UNCLOS III), a coastal nation may claim sovereignty over the air space, water seabed, and subsoil within its territorial sea.[8] U.S. Supreme Court precedent and international practice indicate that this sovereignty authorizes coastal nations to permit offshore development within its territorial sea.[9]

The U.S. contiguous zone extends beyond the territorial sea to twenty-four nautical miles from the baseline. In this area, a coastal nation may regulate to protect its territorial sea and to enforce its customs, fiscal, immigration, and sanitary laws.[10] The exact contours of U.S. authority in the contiguous zone are not clearly defined, although the U.S. does not claim full sovereignty.[11] However, in addition to the jurisdiction specifically applicable to the contiguous zone, the jurisdiction the United States exercises over the EEZ is also applicable.

The U.S. EEZ extends 200 nautical miles from the baseline. In accordance with international law, the U.S. has claimed sovereign rights to explore, exploit, conserve, and manage EEZ natural resources of the sea-bed, subsoil, and the superadjacent waters.[12] U.S. jurisdiction also extends over "other activities for the economic exploitation and exploration of the zone, *such as the production of energy from the water, currents and winds*"[13] and, subject to some limitations, "the establishment and use of artificial islands, installations and structures; marine scientific research; and

---

[5] Restatement (Third) of the Foreign Relations Law of the United States, § 514 (1986).

[6] Proc. No. 5928 (Dec. 27, 1988).

[7] United Nations Convention on the Law of the Sea, Dec. 10, 1982, 21 I.L.M. 1261 (entered into force Nov. 16, 1994)(hereinafter UNCLOS III).

[8] UNCLOS III arts. 2.1, 2.2, 3; *see also* United States v. California, 332 U.S. 19 (1947); Alabama v. Texas, 347 U.S. 272, 273-74 (1954).

[9] *See* United States v. California, 436 U.S. 32, 36 (1978); United States v. Alaska, 422 U.S. 184, 199 (1975); Alabama v. Texas, 347 U.S. 272, 273-74 (1954); United States v. California, 332 U.S. 19 (1947).

[10] UNCLOS III art. 33.

[11] United States v. De Leon, 270 F.3d 90, 91 n.1 (1st Cir. 2001); *see also* Vermilya-Brown Co. v. Connell, 335 U.S. 377, 381 (1948); Cuban Am. Bar Ass'n v. Christopher, 43 F.3d 1412, 1425 (11th Cir.1995) (control and jurisdiction is not equivalent to sovereignty).

[12] UNCLOS III arts. 56, 58.

[13] *Id.* art. 56.1 (emphasis added).

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the protection and preservation of the marine environment."[14] In almost all situations, the U.S. EEZ overlaps geographically with the Outer Continental Shelf (OCS), a geologically distinct area of appurtenant seabed referenced in several federal laws.[15]

Thus, it would seem clear that as against other nations, the United States would have legal authority to permit wind energy projects within the full range of its territorial sea, contiguous zone, and EEZ.

The relative jurisdiction of the federal government and the states is also of importance. The Submerged Lands Act of 1953[16] assured coastal states title to the lands beneath coastal waters in an area stretching, in general, three geographical miles from the shore.[17] Thus states, subject to federal regulation for "commerce, navigation, national defense, and international affairs" and the power of the federal government to preempt state law, may regulate the coastal waters within this area.[18] The remaining outer portions of waters over which the United States exercises jurisdiction are federal waters.[19]

In sum, it would seem relatively clear that the U.S. federal government would have permitting authority, supported by international law, for offshore wind farms. However, federal authority would be limited by the internationally recognized right of free passage and by the jurisdiction granted to the states under the Submerged Lands Act.

Federal and State Permitting. For *onshore* wind projects on federal public lands, the Department of the Interior, through the Bureau of Land Management, has created a comprehensive regulatory program under the Federal Land Policy and Management Act,[20] but no similarly comprehensive federal statutory or regulatory scheme exists for *offshore* wind energy development at this time. Still, the Army Corps of Engineers has undertaken the lead role in the federal permitting process, although some have questioned the Corps' statutory authority to issue permits for wind energy facilities. States may also play a role in the permitting process in some

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[14] *Id.* art. 56.1(b).

[15] *See* U.S. Commission on Ocean Policy, An Ocean Blueprint for the 21st Century: Final Report of the U.S. Commission on Ocean Policy, Primer on Ocean Jurisdictions: Drawing Lines in the Water, Pre-Publication Copy 41-44 (2004), *available at* [http://www.oceancommission.gov/documents/prepub_report/primer.pdf].

[16] 43 U.S.C. §§ 1301-1303, 1311-1315.

[17] *Id.* § 1301(a)(2). State jurisdiction typically extends three nautical miles (approximately 3.3 miles) seaward of the coast or "baseline." Texas and the Gulf coast of Florida have jurisdiction over an area extending 3 "marine leagues" (9 nautical miles) from the baseline. Louisiana's jurisdiction extends 3 "imperial nautical miles" (imperial nautical mile = 6080.2 feet) seaward of the baseline. 43 U.S.C. § 1301(a)(2).

[18] *Id.* §§ 1314(a), 1311(a)(2).

[19] *Id.* § 1302.

[20] 43 U.S.C. §§ 1701 *et. seq.*

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instances, although their jurisdiction is more limited with regard to offshore projects located in federal waters. The following paragraphs will describe the nature of the permitting process as it is currently being implemented and the challenges to existing Corps practice.

Federal Regulation. Currently, the Army Corp of Engineers has taken the lead role in the federal permitting process, claiming jurisdiction under the Rivers and Harbors Act (RHA),[21] as amended by the Outer Continental Shelf Lands Act (OCSLA).[22] The Corps has jurisdiction under these laws to regulate obstructions to navigation within the "navigable waters of the United States"[23] and, under what are arguably more limited circumstances, on the Outer Continental Shelf — thus the Corps has authority over structures in state and federal navigable waters. No federal legislation explicitly addresses the permitting of offshore renewable energy facilities, and the Corps position is based on what some argue is an overly broad interpretation of its statutory authority. In addition to the Corps' review for navigability-related purposes, the views of other federal agencies that have jurisdiction by law or special subject matter expertise, along with the views of state and local agencies, are taken into consideration during the environmental review process mandated by the National Environmental Policy Act (NEPA).[24]

NEPA requires federal agencies to take a "hard look" at the environmental consequences of their actions. In general, NEPA and its implementing regulations require various levels of environmental analysis depending on the circumstances and the type of federal action contemplated. Certain actions that have been determined to have little or no environmental effect are exempted from preparation of NEPA documents entirely and are commonly referred to as "categorical exclusions."[25] In situations where a categorical exclusion does not apply, an intermediate level of review, an environmental assessment (EA), may be required. If, based on the EA, the agency finds that an action will not have a significant effect on the environment, the agency issues a "finding of no significant impact" (FONSI), thus terminating the NEPA review process. On the other hand, major federal actions that are found to significantly affect the environment require the preparation of an environmental impact statement (EIS), a document containing detailed analysis of the project as proposed, as well as other options, including taking no action at all. NEPA does not

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[21] 33 U.S.C. §§ 407-687.

[22] 43 U.S.C. §§ 1331-1356a.

[23] Corps regulations define the "navigable waters of the United States" as "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce." 33 C.F.R. § 329.4. Under the RHA, navigable waters "includes only those ocean and coastal waters that can be found up to three geographic miles seaward of the coast." Alliance To Protect Nantucket Sound, Inc. v. U.S. Dept. of Army 288 F.Supp.2d 64, 72 (D.Mass.,2003); *see also* 33 C.F.R. § 329.12(a). On the OCS, however, the Corps' regulatory jurisdiction extends beyond that three-mile limit for, at least certain purposes. 43 U.S.C. § 1333(a)(1), (e).

[24] 42 U.S.C. §§ 4321 *et. seq.*

[25] 40 C.F.R. § 1508.4 (2003).

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direct an agency to choose any particular course of action; the only purpose of an EIS is to ensure that environmental consequences are considered. Thus, in practice, NEPA review will provide information on wind energy projects beyond mere impacts on navigability, and will include impacts to:

> existing resources of the final alternative sites in terms of physical oceanography and geology; wildlife, avian, shellfish, finfish and benthic habitat; aesthetics, cultural resources, socioeconomic conditions, and air and water quality. Human uses such as boating and fishing will also be described.[26]

In addition to the role interested parties and cooperating agencies may play under NEPA, certain federal agencies have independent sources of jurisdiction over specific ocean resources. Thus, they would also likely be involved in the permitting of offshore wind energy facilities. Some of the most relevant authorities are the Endangered Species Act (ESA)[27] and the Migratory Bird Treaty Act (MBTA).[28]

Briefly, each of these laws makes it illegal to inflict certain kinds of harm upon designated species of plants and animals. The ESA prohibits any person, including private entities, from "taking" a "listed" species.[29] "Take" is broadly defined as "to

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[26] *See* U.S. ARMY CORPS OF ENG'RS, ENVIRONMENTAL IMPACT STATEMENT: SCOPE OF WORK, WIND POWER FACILITY PROPOSED BY CAPE WIND ASSOCIATES, LLC 3, *available at* [http://www.nae.usace.army.mil/projects/ma/ccwf/windscope.pdf] (last visited Feb. 20, 2004).

[27] 16 U.S.C. §§ 1531-1544. It should also be noted that it is perhaps arguable that the ESA does not apply in certain U.S. waters or extraterritorially. However, section 9, which prohibits the taking of listed species, specifically states that it applies in the U.S. territorial sea and upon the high seas (i.e. areas beyond national jurisdiction). 16 U.S.C. § 1538(a)(1)(A), (C). So far, all U.S. wind farm proposals have been within the boundaries of the U.S. territorial sea and would thus appear to be covered by section 9. The section 7 consultation provision described above does not appear to expressly address applicability in U.S. waters or extraterritorially; however, the law states that it applies, to "any action authorized, funded, or carried out" by a federal agency, and regulations implementing section 7 make clear that consultation is required for actions taken within the United States and on the high seas. 16 U.S.C. § 1536; 50 C.F.R. § 402.01. The extent to which the phrase "within the United States" includes portions of the ocean under U.S. sovereignty or control is unclear; however, it may arguably include the territorial sea, over which the U.S. exercises full sovereignty. The application of the ESA in areas under the jurisdiction of other nations would be more questionable but is beyond the scope of this report. *See* Lujan v. Defenders of Wildlife, 504 U.S. 555, 589 (1992) (Stevens, J., concurring). In addition to ESA language pertaining to jurisdiction, the OCSLA does state that "[t]he Constitution and laws and civil and political jurisdiction of the United States are hereby extended to the subsoil and seabed of the outer Continental Shelf and to all artificial islands, and all installations ... to the same extent as if the outer Continental Shelf were an area of exclusive Federal jurisdiction located within a State....," lending credence to the idea that the ESA will apply in U.S. waters. 43 U.S.C. § 1333(a)(1).

[28] 16 U.S.C. §§ 703-712.

[29] Under the ESA, species are listed as either "endangered" or "threatened" based on the risk of their extinction. An "endangered" species is "any species which is in danger of extinction

(continued...)

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harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct."[30] Additionally, a federal agency permitting or undertaking action that could impact a protected species is subject to section 7 of the ESA, which requires consultation with the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS or NOAA Fisheries), depending upon the species affected.[31]

The section 7 consultation process involves several initial steps leading to a determination of whether a listed species or its designated critical habitat is present in a project area.[32] If a species or critical habitat is present, then the permitting/acting federal agency must prepare a biological assessment, evaluating the potential effects of the action.[33] If the acting federal agency determines that a project may adversely affect a listed species or critical habitat, formal consultation and preparation of a biological opinion is required.[34] The biological opinion contains a detailed analysis of the effects of the agency action and contains the final determination as to whether the proposed action is likely to jeopardize the species or destroy or adversely modify its critical habitat.[35] If review results in a jeopardy or adverse modification determination, the biological opinion must identify any "reasonable and prudent alternatives" that could allow the project to proceed.[36] Projects that will result in a level of injury to a species or habitat that will fall short of jeopardizing survival may still be approved subject to certain terms.[37] The agency may be allowed to "take" some individuals of a listed species without triggering penalties under the act. These incidental takings are to be described in a statement accompanying the biological opinion.[38] Takings allowed under the consultation process are deemed consistent

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[29] (...continued)
throughout all or a significant portion of its range ...." A "threatened" species is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." 16 U.S.C. §§ 1532(6), (20).

[30] 16 U.S.C. § 1532(19).

[31] *Id.* § 1536(2).

[32] 50 C.F.R. § 402.12(c) (2004). It should also be noted that some protections also attach to "candidate" species, i.e. those proposed but not officially listed. Under current law, an agency must "confer" with the appropriate Secretary if agency action will likely jeopardize the continued existence of any candidate species or adversely modify critical habitat proposed for designation. This is distinct from the section 7 consultation process, less formal, and meant to assist planning early in the process should the species be listed and more definite protections attach. *See* 16 U.S.C. § 1536(a)(4); 50 C.F.R. § 402.10.

[33] 50 C.F.R. § 402.12(b), (d) (2004).

[34] *Id.* § 402.14(e).

[35] *Id.* § 402.14(h).

[36] *Id.* § 402.14(h)(3).

[37] *Id.* § 402.14(i).

[38] *Id.* § 402.14(i)(1)(i)-(v).

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with the ESA and, thus, are not subject to the penalties under the act and no other authorization or permit is required.[39]

The MBTA is the domestic law that implements the United States' obligations under separate treaties with Canada, Japan, Mexico and Russia for the protection of migratory birds.[40] The MBTA generally prohibits the taking, killing, possession, transportation, and trafficking in of migratory birds, their eggs, parts, and nests.[41] Like the ESA, the general ban on taking protected birds can be waived under certain circumstances. Pursuant to section 704, the Secretary of the Interior is authorized to determine if, and by what means, the take of migratory birds should be allowed.[42] FWS is responsible for permitting activities that would otherwise violate the MBTA. Its regulations at 50 C.F.R. § 21 make exceptions from permitting requirements for various purposes and provide for several specific types of permits, such as import and export permits, banding and marking permits, and scientific collection permits.[43] More general permits for special uses are also provided for under the regulations, although an applicant must make "a sufficient showing of benefit to the migratory bird resource, important research reasons, reasons of human concern for individual birds, or other compelling justification."[44] It would not appear that FWS has promulgated regulations specific to the sort of unintentional harm caused by the rotating turbines of wind energy projects, thus it is not clear that the permitting process provided for under current regulations is immediately applicable to wind energy projects.[45] The Service has, however, adopted voluntary, interim guidelines for minimizing the wildlife impacts from wind energy turbines.[46] As these guidelines indicate, compliance does not shield a company from prosecution for MBTA violations; however, "the Office of Law Enforcement and Department of Justice have used enforcement and prosecutorial discretion in the past regarding individuals, companies, or agencies who have made good faith efforts to avoid the take of migratory birds."[47]

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[39] 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i)(5).

[40] Birds that receive protection under the MBTA are listed at 50 C.F.R. 10.13 (2003).

[41] 16 U.S.C. § 703.

[42] 16 U.S.C. § 704.

[43] 50 C.F.R. §§ 21.11-21.26 (2003).

[44] *Id.* § 21.27.

[45] *See* 69 Fed. Reg. 31074 (June 2, 2004) ("Current regulations authorize permits for take of migratory birds for activities such as scientific research, education, and depredation control. However, these regulations do not expressly address the issuance of permits for incidental take.").

[46] U.S. Fish and Wildlife Service, Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines, (May 2003) (*available at* [http://www.fws.gov/r9dhcbfa/wind.pdf].

[47] U.S. Fish and Wildlife Service, Memorandum, Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines at 2 (May 2003).

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State Regulation. States may also play a regulatory role, whether the project is proposed for construction in federal or state waters. State jurisdiction over projects located in federal areas is substantially circumscribed; however, under the Coastal Zone Management Act[48] (CZMA) states are explicitly granted some regulatory authority. In general, the CZMA encourages states to enact coastal zone management plans to coordinate protection of habitats and resources in coastal waters.[49] The act establishes a policy of preservation alongside sustainable use and development that is compatible with resource protection.[50] Under the act, state coastal zone management programs that are approved by the Secretary of Commerce receive federal monetary and technical assistance. State programs must designate land and water conservation measures and permissible uses,[51] and must address various sources of water pollution.[52] Of particular importance here, the CZMA also requires that the federal government and federally permitted activities comply with state programs.[53] Responding to a Supreme Court decision that excluded OCS oil and gas leasing from state review under the CZMA, Congress amended the "consistency review" provision to include the impacts on a state coastal zone from federal actions in federal waters.[54] Thus, states have some authority to assure themselves that federally-permitted projects in federal waters will not result in a violation of state coastal zone management regulation.

In addition to consistency review, projects to be constructed in state waters, including any cables that would be necessary to transmit power back to shore, are subject to all state regulation or permitting requirements. Coastal zone regulation varies significantly among the states. The CZMA itself establishes three generally acceptable frameworks: (1) "[s]tate establishment of criteria and standards for local implementation, subject to administrative review and enforcement;" (2) "[d]irect State land and water use planning and regulation;" and (3) regulation development and implementation by local agencies, with state-level review of program decisions.[55]

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[48] 16 U.S.C. §§ 1451-1464.

[49] Coastal U.S. states and territories, including the Great Lakes states are eligible to receive federal assistance for their coastal zone management programs. Currently, there are 33 approved state and territorial plans. Of eligible states, only Illinois does not have an approved program. *See* National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resource Management, State and Territory Coastal Management Program Summaries, *available at* [http://www.ocrm.nos.noaa.gov/czm/czmsitelist.html].

[50] *Id.* § 1452(1), (2).

[51] *Id.* § 1455(d)(2), (9)-(12).

[52] *Id.* § 1455(d)(16).

[53] *Id.* § 1456(c).

[54] *Id*; Sec'y of the Interior v. California, 464 U.S. 312, 315 (1984).

[55] 16 U.S.C. § 1455(d)(11).

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Within this framework, several states, such as New Jersey, California, and Rhode Island, centralize authority for their programs in one agency.[56] In New Jersey, for instance, the state Department of Environmental Protection (through the Coastal Management Office within the Commissioner's Office of Policy, Planning, and Science) is the lead agency for coastal zone management under several state laws.[57] The majority of states, however, operate coastal zone management programs under "networks" of parallel agencies, with various roles defined by policy guidance and memoranda of understanding.[58] In Massachusetts, for instance, coastal zone management is tended to by a variety of agencies, including the Departments of Environmental Protection, Environmental Management, Fisheries and Wildlife, and Food and Agriculture, the Metropolitan District Commission, the Energy Facilities Siting Board, and the Executive Office of Transportation and Construction.[59] Based on a series of MOUs, each agency is obligated to issue and apply state regulations and permits consistently with the state's coastal zone management program.[60] Thus, depending on the state with jurisdiction, offshore wind energy projects can be subject to comprehensive regulation with permitting authority located within multiple state and local level agencies.

Corps Regulation Challenge. The authority of the Army Corps of Engineers to permit offshore wind energy projects has already been challenged in court in *Alliance to Protect Nantucket Sound v. United States Department of the Army*.[61] The case deals with the two primary obstacles to the current federal system applied to offshore wind energy permitting: (1) the limits of Corps jurisdiction on the outer continental shelf and (2) the current lack of administrative authority to convey OCS property rights for renewable energy.[62] In September 2003, a Massachusetts district court granted summary judgment in favor of the Army Corps interpretation, at least with respect to construction of an initial data gathering tower, although it would appear that its reasoning would be applicable to the larger-scale wind farm project itself. At present, the case is on appeal with the United States Court of

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[56] *See* Rusty Russell, *Neither Out Far Nor In Deep: The Prospects for Utility-Scale Wind Power in the Coastal Zone*, 31 B.C. ENVTL. AFF. L. REV. 221, 240-41 (2004).

[57] E.g. Freshwater Wetlands Protection Act N.J.S.A. 13:9B; Flood Hazard Area Control Act, N.J.S.A. 58:16A; Wetlands Act of 1970, N.J.S.A. 13:9A; Waterfront Development Act, N.J.S.A. 12:5-3; NJ Water Pollution Control Act - N.J.S.A. 58:10A; Coastal Area Facility Review Act (CAFRA), N.J.S.A. 13:19; Tidelands Act, N.J.S.A. 12:3.

[58] Rusty Russell, *supra* note 23, at 241.

[59] MASSACHUSETTS OFFICE OF COASTAL ZONE MGMT., MASSACHUSETTS COASTAL ZONE MANAGEMENT PLAN 113-121 (Mar. 2002), *available at* [http://www.state.ma.us/czm/managementplan.pdf].

[60] *Id.* at App. E.

[61] Alliance to Protect Nantucket Sound v. United States Department of the Army, 288 F.Supp.2d 64 (D. Mass. 2003).

[62] *Id.* at 67. Additional arguments were also presented regarding the adequacy of the Corps' NEPA analysis.

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Appeals for the First Circuit.[63] The following paragraphs discuss the generally applicable jurisdiction concerns as well as the interpretation accepted in the *Alliance* case.

Corps OCS Jurisdiction. The first major issue facing offshore wind energy projects is the applicability of the Rivers and Harbors Act and the Outer Continental Shelf Lands Act to these projects. Section 10 of the Rivers and Harbors Act authorizes the Army Corps to review and permit any project that would obstruct the "navigable waters of the United States."[64] Under this law, as interpreted by the Corps, jurisdiction is limited to state-controlled waters.[65] Thus, it would seem relatively clear that the Corps has permitting jurisdiction under the Rivers and Harbors Act for any wind energy project that would be sited in state-controlled portions of the territorial sea. The OCSLA extends the Corps' jurisdiction to the OCS, although it is arguable that renewable energy projects to be sited in federal waters are beyond the scope of the Corps' extended jurisdiction. In general, the OCSLA authorizes the Department of the Interior to lease certain mineral resources of the submerged lands in federal waters.[66] Leasing of the seabed can thus only occur for specified purposes. 43 U.S.C. § 1333(e) of the OCSLA extends Corp navigability permit jurisdiction to the OCS. It states:

> The authority of the Secretary of the Army to prevent obstruction to navigation in the navigable waters of the United States is extended to the artificial islands, installations, and other devices referred to in subsection (a) of this section.[67]

43 U.S.C. § 1333(a), referenced in (e) states, in relevant part:

> The Constitution and laws and civil and political jurisdiction of the United States are extended to the subsoil and seabed of the outer Continental Shelf and to all artificial islands, and all installations and other devices permanently or temporarily attached to the seabed, *which may be erected thereon for the purpose of exploring for, developing, or producing resources therefrom*, or any such installation or other device (other than a ship or vessel) for the purpose of *transporting* such resources ....[68]

The meaning of this section is subject to differing interpretations. Arguably, the language of these provisions indicates that Corps permitting authority on the OCS is limited to those structures that might be built and used for the purpose of exploring for, developing, producing, or transporting the resources that have been extracted from the seabed. Such an interpretation would appear to exclude wind energy

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[63] *See* Appellants' Designation of the Contents of the Appendix and Statement of Issues, Alliance to Protect Nantucket Sound, Inc. v. U.S. Dep't of the Army, 288 F. Supp. 2d 64 (D. Mass. 2003), appeal docketed, No. 03-2604 (1st Cir. Nov. 24, 2003).

[64] 33 U.S.C. § 403.

[65] 33 C.F.R. § 329.12.

[66] *See generally* 43 U.S.C. § 1337.

[67] 43 U.S.C. § 1333(e).

[68] 43 U.S.C. § 1333(a)(1).

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facilities from the Corps' authority. On the other hand, the court in the *Alliance* case found significance in the use of the word "may," holding that Corp jurisdiction extends to all structures that *may or may not* be used to explore for, develop, or produce resources.[69] It is arguable, however, that the phrase "may be" implies only that construction may or may not occur and does not indicate that the designated purposes are optional. Thus, the language of the statute can be read so as to deny Corps jurisdiction over offshore renewable energy projects; however, OCSLA legislative history and agency interpretation indicate that Congress did not intend to limit the Corps' authority to structures used for mineral exploration, development, extraction, or transportation, as discussed below.

Army Corps regulations do not explicitly address the extent of its authority on the OCS. They do recognize that Corps jurisdiction over the OCS is based on the OCSLA, stating that Corps jurisdiction has been extended to "artificial islands, installations, and other devices located on the seabed, to the seaward limit of the outer continental shelf...."[70] Notably, unlike the OCSLA itself, this provision does not make reference to the purpose for which these structures are used, arguably indicating that the Corps interprets its jurisdiction broadly. Additionally, Guidance Letter 88-08, a Corps policy statement and not itself enforceable law, interprets the legislative history of the OCSLA to indicate that Congress intended that the Corps regulate all OCS structures regardless of the purpose served, including even such things as offshore gambling casinos.[71] The Letter does not provide the analysis leading up to this conclusion; however, the court in the *Alliance* case relied heavily on the statute's legislative history in upholding the Corps interpretation, according the Corps deference under the *Chevron* standard.[72]

As originally enacted, the OCSLA provided that the jurisdiction of the Corps "extended to artificial islands and fixed structures located on the outer Continental

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[69] Alliance to Protect Nantucket Sound v. United States Department of the Army, 288 F. Supp.2d 64, 75 (D. Mass. 2003).

[70] 33 C.F.R. § 320.2(b).

[71] Army Corps of Engineers, Regulatory Guidance Letter 88-08 (July 20, 1988), *available at* [http://www.usace.army.mil/inet/functions/cw/cecwo/reg/rgls/rgl88-08.htm]. Guidance Letter 88-08 was set to expire in 1990; however, the Corps indicates that unless superseded by subsequently issued regulations or guidance letters, "the guidance provided in RGL's generally remains valid after the expiration date." *See* Army Corps of Engineers, Regulatory Guidance Letters, *at* [http://www.usace.army.mil/inet/functions/cw/cecwo/reg/rglsindx.htm]. Regulations and subsequent guidance letters do not appear to address or revise the Corps position contained in the 1988 opinion.

[72] As established in *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, an agency's interpretation of a statute it is charged with administering it is entitled to special deference. If Congressional intent is not clear from the face of a statute, agency interpretation is generally upheld so long as it is reasonable. Chevron, 467 U.S. at 842-45 (1984). If Congressional intent is clear from the face of the statute, "the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Id.* at 843.

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Shelf," making no explicit reference to the purpose of such structures.[73] The provision was subsequently amended, taking on its current form so as to reference the resource development purposes of OCS structures. However, as the legislative history indicates, at the time of the amendment, Congress understood the Corps' jurisdiction under the OCSLA to apply to all artificial islands and fixed structures on the OCS, regardless of purpose.[74] Further, the conference report indicates that Congress did not intend to limit the Corps' jurisdiction in this respect, but rather to conform the section to other amended provisions.[75]

Use of the OCS. An additional issue relevant to the construction of offshore wind facilities is the matter of who is authorized to use the federally-controlled submerged lands of the OCS. Because any wind turbines would be attached to the seabed of the OCS, some authorization to occupy the submerged lands of the OCS would be required before construction could legally take place. Use of federal lands, including the OCS, requires some form of permission, such as a right-of-way, easement, or license.[76] Use or occupancy of the OCS without such authorization arguably constitutes common law trespass.[77] However, the Court of Appeals for the Fifth Circuit has held that because the United States does not own the OCS in fee simple, it cannot claim trespass based on unauthorized construction on OCS.[78] On the other hand, the court stated, "[n]either ownership nor possession is, however, a necessary requisite for the granting of injunctive relief," because the United States has paramount rights to the OCS and an interest to protect.[79] Thus damages, available under trespass, may not be available for unauthorized construction on the OCS, while injunctive relief would appear possible even under more constrained interpretations of U.S. authority.

It appears that no federal agency, including the Army Corps of Engineers, which permits structures only for navigability purposes, can authorize the occupation and use of OCS lands for wind or other renewable energy purposes under current law. In the *Alliance* case, the plaintiffs claimed that the Corps had acted unlawfully by issuing its permit knowing that the project applicant would not be able to acquire the

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[73] Act of Aug. 7, 1953, ch. 345, 67 Stat. 462 § 4(f).

[74] H.R. Conf. Rep. No. 95-1474 at 82 (1978), reprinted in U.S.C.C.A.N. at 1674, 1681.

[75] *Id.*

[76] Several federal laws would appear to indicate that Congress intends usage of the OCS to be undertaken only when permission has been expressly granted. *See* 43 U.S.C. § 1332(1), (3) ("the subsoil and seabed of the outer Continental Shelf appertain to the United States and are subject to its jurisdiction, control, and power of disposition ....;" *see also* 42 U.S.C. § 9101(a)(1)(stating that the purpose of the Ocean Thermal Energy Conversion Act is to "authorize and regulate the construction, location, ownership, and operation of ocean thermal energy conversion facilities.").

[77] *See* 43 U.S.C. § 1333(a)(2)(A) (applying the criminal and civil laws of states adjacent to the OCS as federal law); see also Guy R. Martin, *The World's Largest Wind Energy Facility in Nantucket Sound? Deficiencies in the Current Regulatory Process for Offshore Wind Energy Development*, 31 B.C. Envtl. Aff. L. Rev. 300, n.96 (2004).

[78] United States v. Ray, 423 F.2d 16, 22 (5th Cir. 1970).

[79] *Id.*

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requisite property rights to construct its project.[80] The court did not directly address the issue of whether property rights on the OCS could be granted for renewable energy projects under the current administrative system; however, the court did decide that the Army Corps is not required to validate existing property rights or otherwise become involved in ongoing property disputes prior to issuing a navigability-related permit.[81] The Alliance to Protect Nantucket Sound argued, and continues to argue on appeal, that because the applicant for the permit could not legally obtain the requisite property rights, the Corps was in violation of its own regulations.[82] Corps regulations state:

> A DA [Department of the Army] permit does not convey any property rights, either in real estate or material, or any exclusive privileges. Furthermore, a DA permit does not authorize any injury to property or invasion of rights or any infringement of Federal, state or local laws or regulations. The applicant's signature on an application is an affirmation that the applicant possesses or will possess the requisite property interest to undertake the activity proposed in the application. The district engineer will not enter into disputes but will remind the applicant of the above. The dispute over property ownership will not be a factor in the Corps public interest decision.[83]

The Corps interprets these regulations to require only that an applicant affirm that it possesses or will possess the requisite property rights prior to construction. The court found the agency's interpretation to be "entirely consistent with its regulations."[84] Thus, in accordance with this decision, the Corps does not have a responsibility to deny a permit even when property rights cannot presently be obtained; however, construction on the OCS without first obtaining these rights would remain unlawful.

Recent Legislation. Several bills that address offshore wind facility siting have been introduced. H.R. 793 would amend the OCSLA to authorize the Secretary of the Department of the Interior to grant easements or rights-of-way on the OCS for activities, such as renewable energy projects, not otherwise authorized in the OCSLA or other law.[85] Among other things, H.R. 793 would require the Secretary to establish "reasonable forms of annual or one-time payments" that are not based on "throughput or production" for any property interests granted under its provisions, and would also authorize the Secretary to establish "fees, rentals, bonus, or other

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[80] Alliance to Protect Nantucket Sound v. United States Department of the Army, 288 F.Supp. 2d 64, 67 (D. Mass. 2003).

[81] *Id.* at 77-78.

[82] *See id.* at 77.

[83] 33 C.F.R. § 320.4(g)(6).

[84] Alliance to Protect Nantucket Sound, 288 F.Supp.2d at 78.

[85] H.R. 793, 108th Cong. (2003); *see also* H.R. 5156, 107th Cong. (2002).

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payments" that would not appear to be subject to these limitations.[86] Additionally, the bill would require the Secretary to consult with other federal agencies and to prescribe any necessary regulations to assure "safety, protection of the environment, prevention of waste, and conservation of the natural resources of the outer Continental Shelf, protection of national security interests, and the protection of correlative rights therein."[87]

Very similar language is contained in several versions of the Energy Policy Act of 2003, H.R. 6[88] and S. 2095.[89] Section 321 of both bills contains a measure not found in H.R. 793 that would exclude projects that have been constructed before the date of the bill's enactment or for which a request for proposal has been issued by a public authority from resubmitting "documents previously submitted" or obtaining "reauthorization of actions previously authorized."[90]

A different approach is taken in H.R. 1183,[91] which would amend the Coastal Zone Management Act to provide for the location and permitting of renewable energy facilities in the marine environment.[92] Unlike H.R. 793, this bill would apply solely to the siting of renewable energy facilities, defined in the bill as "a source of energy that is regenerative and is produced without depleting or otherwise diminishing the resource from which such energy is derived. Such term includes, but is not limited to, solar, thermal, and wind energy sources."[93] The bill would establish a federal licensing program, managed under the authority of the Secretary of Commerce, for facilities in federal waters. Among other things, the bill contains provisions requiring environmental, national security, and safety regulation in consultation with other agencies and would require the Secretary of Commerce to identify those waters under federal jurisdiction that have the greatest renewable energy potential.[94]

Conclusion. Interest in developing offshore wind energy resources continues to grow, and projects are already in the initial stages of development. It would seem clear that the United States, vis-a-vis other nations, would have the right to permit offshore development in its territorial sea and on the Outer Continental Shelf, subject to state authority over offshore areas under the Submerged Lands Act. Currently,

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[86] H.R. 793, 108th Cong. § 1(b) (2003) (amending 43 U.S.C. 1337 and adding new subsection (p)).

[87] *Id.*

[88] H.R. 6, 108th Cong., § 321 (2003).

[89] S. 2095, 108th Cong. § 321 (2004).

[90] *Id.* § 321(c).

[91] H.R. 1183, 108th Cong. § 2(b) (2003).

[92] *Id.* § 101.

[93] *Id.* § 3(a) (amending 16 U.S.C. 1453 and adding new subsection (17)).

[94] *Id.* § 202.

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there is no federal law that authorizes an agency to transfer property rights or license the use of federal offshore areas for renewable energy purposes. It is also questionable whether the Army Corps of Engineers, which has jurisdiction under the Rivers and Harbors Act and the Outer Continental Shelf Lands Act to permit obstructions to navigability, is authorized to issue permits for offshore wind development under current law. Multiple pieces of legislation have been introduced to respond to these concerns and would create significantly different regulatory regimes. At this time, however, offshore wind energy projects continue to move forward despite legal uncertainty and a lack of comprehensive regulation.

1806

Adams, Karen K NAE

From: Robert Slott [rslott@comcast.net]
Sent: Wednesday, December 08, 2004 9:29 AM
To: Energy, Wind NAE
Subject: Public comment on the Draft EIS on the Wind Project Proposed for Nantucket Sound

Please confirm receipt of this comment on the Draft EIS on the Wind Project Proposed for Nantucket Sound

Financial Instruments
Comments from Robert Slott, a resident of Hyannis, MA.

The Draft EIS needs to require that Cape Wind provide a financial instrument to protect against the risk of negative economic impacts resulting from the Cape Wind project.

Although Cape Wind lists 391 jobs added during and 50 jobs added after construction of the wind towers, there is no quantitative estimate of the potential loss of jobs, business revenue, and home value which could result from the project. Cape Cod and Islands' economy is based on tourism and attracting second home owners and retirees because of its scenic beauty. While any quantitative estimate of future economic losses due to the Cape Wind project is debatable, financial instruments can be put in place to ameliorate such losses if they were to occur.

A financial instrument is already recommended to provide funds to remove the wind towers and the transmission tower when the project is completed. The Peer Review Committee worried about an abandoned wind farm in Nantucket Sound. In their September 30, 2003, consolidated remarks they said: "An abandoned wind farm at sea would seem to be the worst possible environmental outcome."

According to the Draft EIS, "From the start of construction, a financial instrument will be in place to ensure that sufficient funds are available for the removal of equipment and associated material ..." However, the description of this financial instrument is not specified. It should be. And it should be of sufficient size and outside the control of Cape Wind, so that were Cape Wind to cease to exist, the structures would still be removed. Derelict, non-functioning wind towers have littered the landscape in California.

Cape Wind dismisses the possibility of a loss of value to businesses and homes facing their towers. At a Cape Wind website the statement is made: "According to the Draft EIS, there is no evidence that wind farm development harms property values." The principle reference for this statement is the REPP report ("The Effect of Wind Development on Local Property Values," Renewable Energy Policy Project, May 2003)
.
This conclusion could be wrong. A severe drop in tourism and home values would be among the worst possible economic outcomes. Loss of tourism could result in job losses that would greatly outnumber the jobs added by the Cape Wind project. If business revenues and home values were to decline sharply, the Cape Wind project would reduce tax revenues from these properties causing taxes paid by other Cape Cod and Islands businesses and home owners to increase to cover these losses.

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In the REPP report, prices and sales of homes with views of wind farms were matched with comparable communities in the same region that had no view of the wind farm. Selection of comparable communities was based on judgment, though effort was made to balance socioeconomic factors. Analysis in the REPP report does not include situations where the wind project was located in a seaside area of great natural beauty.

In view of the risk associated with this first-of-its-kind, large-scale, offshore wind project in the United States, a financial instrument should be required to cover potential economic losses to businesses and home values resulting from the Cape Wind project.

The loss of value to business revenues and home prices due to the wind towers can be determined using the REPP report methodology. Revenues of businesses and sale prices of homes facing the towers can be compared to those of similar businesses and homes on Cape Cod and the Islands not facing the towers. The loss of value will be calculated by comparing revenues and home prices for businesses and home facing the towers to businesses and homes on the coast not facing the towers both before the towers are built, while the towers are built, and after the towers are built. A relative reduction in business revenues and home sale prices for businesses and home facing the tower would be proof of damage to the value of these properties as a result of the towers being placed in Nantucket Sound. Peer review of the processes used to select comparable properties should be required.

The REPP report noted that some locations near wind projects were not analyzed because home sale data were not available. That should not be the case here. Cape Cod and Islands business revenues are used in business property tax assessments and home sale prices are publicly available.

If the project were to be approved, Cape Wind should not be allowed to profit from this [1]

project until independent financial instruments are created and funded which would pay for the removal of the towers and for the protection of business revenues and home values for businesses and homes facing the towers. Once it is established that the Cape Wind project does not have a negative financial impact on homes and businesses facing the towers over a period of five or more years after the construction is completed and the project is operational, the funds for that financial instrument should be released to Cape Wind.

References

Cape Wind website
http://216.239.63.104/search?
q=cache:mV8czR9FvHUJ:www.massclimateaction.org/CapeWind/Cape%
2520WindMYTHvRESPONSE.pdf+cape+wind+myth&hl=en

"According to the Draft EIS, there is no evidence that wind farm development harms property values. The Draft EIS cites several studies, including the analysis of Renewable Energy Policy Project (REPP), which examined 25,000 property transactions within a 5-mile viewshed of wind farm developments across the U.S."

"Peer Review Committee, Offshore Wind Energy, New England Technical Review of Preliminary Screening Criteria for the Cape Wind EIS Consolidated comments on

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Section 2.0 and 3.0 of the Draft EIS, September 30, 2003"
http://www.nae.usace.army.mil/projects/ma/ccwf/prccomments.pdf

"From an environmental point of view the largest risk that reviewers see is a failed project leaving behind an offshore wind farm that is not operational, without sufficient income to address essential maintenance. An abandoned wind farm at sea would seem to be the worst possible environmental outcome."

Windpower Monthly December 1998
http://www.windpower-monthly.com/dec98/leader.htm
"The abandoned wind farm junkyards that resulted have been a thorn in the side of wind energy's image ever since--and no amount of well operating projects have been able to totally repair the damage."

The Effect of Wind Development on Local Property Values
Renewable Energy Policy Project, May 2003
http://solstice.crest.org/articles/static/1/binaries/wind_online_final.pdf

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[1]

Outside the control of Cape Wind

1807

Adams, Karen K NAE

From: DaveMVY@aol.com
Sent: Monday, December 06, 2004 3:00 PM
To: Energy, Wind NAE
Subject: Cape Wind

12-6-2004

Dear Army Corps of Engineers,
I would like to offer my support to the Cape Wind windfarm proposal. As a former selectman of Chilmark I understand the concerns on both sides of the argument. There are greater issues at stake and the need for national energy independence is paramount.

Please count my letter in **support** of the project.

Thank you,
David Damroth
P O Box 295
Chilmark, MA 02535

Attached is an ethics paper I did on this project.

1808

A Brief Overview of Cape Cod's Natural History and the Need for Consistency in Regulations

ENVR E-101
Professor George D. Buckley
Written by David Damroth
(davemvy@aol.com)

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Cape Wind Associates LLC of Yarmouth, Massachusetts submitted a proposal to the United States Army Corps of Engineers to construct an offshore wind generation facility in Nantucket Sound.

This paper will broadly define the proposal, list many of the numerous local, state, and federal agencies involved, provide a brief overview of a number of opposing positions on the issues generating controversy, and make recommendations based on the findings.

The Cape Wind Associates application has two elements. The first is the preliminary installation of a single tower to gather environmental data in the area such as wind speed, temperature, and ocean conditions. (Available to the public on the internet at http://capewind.whgrp.com)[1] The intention is to use the resulting data as the basis in the second application, which proposes to construct 130 wind generation towers. The current proposal for130 tower is a reduction from 170 in the original application. Rising to a height of 260 feet above sea level to the centerlines of the hubs, the additional height of the blade assembly brings the total height of each tower to approximately 420 feet above sea level, a height comparable to a thirty-story building[2]. The interconnection of the proposed towers utilizes undersea cables, which form a transmission grid connected by cable to Cape Cod for distribution in the New England electrical grid.[3] The amount of energy produced will be approximately 50% of the energy demands of the Cape and Islands area. The expected production of electricity from this project will result in the elimination of the need to burn 113 million gallons of fuel oil each year by conventional generating facilities. The production 420 megawatts of "green" electricity promises to be free of most hazardous byproducts.

The United States Army Corps of Engineers (USACE) has jurisdiction over this project under Section 10 of the Rivers and Harbors Act.[4]

Section 10 regulates the placement of structures and other work in the navigable waters of The United States including the waters out to the edge of the continental shelf.

The location of the project is beyond the three-mile Massachusetts state jurisdictional area, with the exception of the transmission lines leading to and from the locus. Other Federal, state, and local agencies will cooperate in the application process.

Those agencies include, but are not limited, to the following;

Federal[5]

The United States Coast Guard (USCG), the Department of Energy (DOE), the Department of the Interior (DOI), the Fish and Wildlife Service (USFWS), Minerals Management Service (USMMS), the Department of Commerce (DOC), National Marine Fisheries Service (NMFS) and the Federal Aviation Administration (FAA).

Commonwealth of Massachusetts[6]

The Massachusetts Environmental Policy Act Office (MEPA)[7], Massachusetts Division of Marine Fisheries (MDMF), Massachusetts office of Coastal Zone Management, (MCZM), and the Massachusetts Technology Collaborative.[8]

Public Interest

Sierra Club, Massachusetts Audubon Society, Conservation Law Foundation[9], The Union of Concerned Scientists, Greenpeace, Healthlink, Cape Clean Air

Sovereign

Wampanoag Tribe of Aquinnah, Massachusetts

Local

The Nantucket Planning Land Commission, The Martha's Vineyard Commission, The Town Conservation Commissions of Barnstable, Falmouth, and Yarmouth

Private coalitions

The Alliance to Protect Nantucket Sound[10] (comprised public and private interests including; commercial fishing, recreational boating, Cape Cod municipalities, commercial, and individual) (www.saveoursound.org), Safewind.info. (www.safewind.info)

Each of these agencies has agreed to participate in the review process in an effort to represent those many areas of interest in which they have jurisdiction, agency, or particular expertise applicable to the review of this application.

This proposal has sparked enormous controversy. The proposed project is located southeast of Cape Cod in an area named Horseshoe Shoal.[11] The developers chose this location for a number of reasons one essential element is as an active wind corridor. [12]Many local communities geographically surround the open waters of Nantucket Sound. That close proximity has triggered significant attention by a wide variety of interested parties. Year-round residents as well as seasonal visitors have ventured into the debate with questions about whether this project is necessary, appropriate, or even needed.

The primary issues espoused by the various parties are aesthetics, potential environmental impact, questions about the appropriateness of the location, and the need or not, for alternative energy production from a facility sited in this sensitive area. Each organization, group, or individual expresses a viewpoint based on a perceived basis of moral authority formulated on specific interests of that group or individual.

The following representative concerns expressed by groups embody some of the major issues. Both opponents and proponents have utilized both public and private forums in the offering of persuasive arguments in effort to sway public opinion in those areas of interest about which they represent a particular moral authority.

Aesthetic

Historically there has never been any interruption to the sweeping seascape in this area. Those parties arguing against the project suggest the placement of towers will change the pristine maritime view. Two examples in particular are representative of the vigor with which opponents act. The Alliance to Save Nantucket Sound has produced and distributed information in their opposition to this project. Rapid and wide dissemination of computer-generated images illustrating many windmills prominent on the horizon prompted public reaction filled with deep fear. Recently information came to the public's attention that challenges the computer-generated depictions. Exaggeration of both placement and scale in the composition of the images of the proposed towers did not represent the project fairly. The second example is the media campaign mounted by the Alliance utilizing two well-known public figures, historian David McCullough and veteran reporter Walter Cronkite. These respected personalities were often heard and seen in print, stating their opposition during the summer months. On August 29, 2003, a news article written by Jay Fitzgerald appeared in The Boston Herald newspaper.[13] The report stated Mr. Cronkite had removed himself from the campaign mounted by The Alliance to Save Our Sound. In a candid admission, Mr. Cronkite stated that he based his understanding and resulting opposition to the project on representations presented by this opposition organization. A meeting with Jim Gordon, the principle of Cape Wind Associates, provided accurate information. Upon further inquiry, Mr. Cronkite found many of the points of information, provided by the Alliance to be misrepresentations. Mr. Cronkite modified his stance from oppositional to a neutral position. He encouraged a complete and fair review process, which he acknowledged is currently underway.

This shift in position took a great deal of courage on Mr. Cronkite's part after making such strong representations in the prior months. Mr. McCullough, however, remains in opposition. While the rapid public dissemination of false information is very difficult to counter, Cape Wind Associate's prompt response to presentations such as these helped in overcoming the damaging initial impressions. In this instance, Cape Wind Associates presented corrected views for public scrutiny. The ethical dilemma is how the presence or not of honesty affects the strength of a stated position. Just how far can the limits of exaggeration be pushed before complete discrediting occurs? Senator Edward Kennedy of Massachusetts stated early opposition to the project. This was surprising based on his progressive political policies in years past. The Democratic Party's platform includes recognition of the global warming issue and support of alternative energy in response. With a summer home in Hyannis Port, on Cape Cod the Senator's action raises the possibility of an ethical lapse of judgment by not separating clearly his personal and governmental interests prior to stating his position.

Proponents of the project see the windmills as beautiful elements in the vista for many reasons. Local residents have endured rates per high kilowatt-hour charged per by the electric companies serving these areas. The supply of electricity for Nantucket and Martha's Vineyard comes via a number of submarine cables originating from the mainland. They are prone to failure. Fortunately, there is some local back up capacity. To many of the full-time local inhabitants these proposed wind farm towers signify a forward looking and necessary response to a failed national energy policy. The beauty embodied by the proposed windfarm is more than simply visual. This flexibility and openness to change is the result of the economics and difficulties of daily island life.

Seasonal residents view the high utility rates and the vagaries of electrical supply of this region as part of the cost and charm of vacation while on the island; hence less need to be open to change. For local year round residents the consideration is more complex as they experience the effects of these impacts very differently than do seasonal residents. These issues result in loss of work, high out of pocket costs, and expenses related to back up power contingencies to name just a few. The supply of electric power at a lower cost will serve to balance the undue expenses residents shoulder. These expenses permeate into every facet of life, as the cost of electricity is integral in every economic level. This illustrates why diverse communities naturally view the construction of the windfarm from entirely different vantage points. The daily interests of the parties shape the future interests of each, by needs, which prompt, on one hand, a greater willingness to allow change or, on the other, less willingness to change.

The Northeast Sustainable Energy Association (www.nesea.org)[14] has published a position that seeks to encourage a more balanced analysis of the project. While maintaining a firm stance in support of the project a caveat requiring as careful a review as possible of the entire project is specific and clear as a component of that position. This support of an open and thorough review lends support to the concept of the inherent strength in a position based on an honest and balanced factual review. The integrity of determinations resulting from any such process will be more believable to those constituents who must live with the resulting changes. This is the first proposal of its kind in The United States. Although no regulatory guidelines exist that would apply collectively for the review of the project there are regulations covering individual aspects of the project. The lapse in regulatory oversight prompting the fear and panic experienced in this case prompts the question, is there a void in ethical governmental leadership?

The Army Corps of Engineers appears to be working in open cooperation with all parties to achieve a fair result in spite of the lack in comprehensive regulatory oversight.[15] A fair review of the application requires the consideration of factually correct information. Those agencies involved in the review process must sift through positions born of specific interests or viewpoints in the effort to glean points common to all, while maintaining an open process of inquiry for the inclusion of information relevant and specific to special interests. The inquiry includes a priority listing in which is included a checkpoint labeled, "The needs and welfare of the people". The introduction of this category into the points of consideration allows broad viewpoints of public interest to be included into the review of this project's application. Exercising care is critical to render a clear assessment of the basis of espoused special interest positions. Providing mechanisms for the inclusion of information into the deliberation of an application will result in proper proportional analysis.

Environmental impacts

The proposed location of the project raises concerns stemming from the lack of sound environmental regulation and raises the specter of potential negative impacts to an area loved yet unfamiliar to most people. There is no precedent for this type of project in the United States, although Europe has a number of installations in place.[16] The application process has undergone an evolution since the initial filings with the Army Corps of Engineers. This occurrence is a result of the open collection of governmental interest and public opinion on the part of The Army Corps by making allowances for inclusion and consideration of unforeseen factors not envisioned in the initial response to the filing of the original application.

The broad range of environmental issues covered include; fisheries, benthic zone disruption, migratory avian mortality, protection of endangered species, and pollution, both noise and water, resulting from construction and maintenance of the facility. Cape Wind Associates responds aggressively to these concerns with strongly stated positions in support of making proper environmental assessments such as the conducting of bird counts using both visual and radar data collection. The strength in this tactic will be clear once the collective environmental benefits are tallied. Denmark has undertaken and completed similar research. Examination of that existing methodology will be beneficial to the creation of a regulatory framework required in the collection of data for future applications of this kind. The Army Corps of Engineers has taken an important step in this direction by ensuring access to the collected data by making it a condition of the application.

Avian mortality

Opponents have cited the hazard presented by the rotation of the blades in an active Atlantic migratory avian flyway as a major concern. Again, The Alliance to Save Nantucket Sound builds on the public's fear by suggesting the prospect of dead birds blanketing the ocean surface for miles has stirred revulsion and quite effective in the garnering of additional opposition.[17] The response to this concern has been to look at the actual avian mortality data from similar existing installations. The numbers of birds killed by the blades of the Danish wind towers have been fewer than projected by the opponents of that project. The amelioration of this problem utilized simple changes in design and function. Reducing the rotation of the blade assembly may dramatically reduce the overall bird mortality. However, some birds will die in the turning blades.

Here is an opportunity to introduce and raise the important concept of a global view of interconnected ecological systems. There will be a reduction in the number of waterfowl killed resulting from exposure to oil released in accidents that often occur in this area. (A discussion of this point appears in a later section.) The addition of energy from the wind farm into the electrical grid will reduce the electricity required from fossil-fueled generating facilities such as the Mirant Company's Canal Electric plant on the Cape Cod Canal.[18] Estimates of these savings run as high as 113 million gallons of fuel oil per year. This reduction in fuel demand will reduce the number of barge trips required for the transportation and delivery of fuel oil. Fewer hours utilized for transport translate into a statistical reduction in potential accidents simply from numerical reductions of potential exposures in the risk equation. The lessening of any hydrocarbons in the environment will provide a safer habitat for many species of birds. This will prove to be an offset to any birds killed by the moving blades of the wind farm towers. The additional reduction of stack and transport exhaust emissions should also be taken into consideration.

Pollution

Cautions are heard relating to water pollution resulting from maintenance on the windmills. There is in fact very little maintenance required on these machines. The most recent oil spill, in the spring of 2003, was in excess of 100,000 gallons and resulted in the state closure of shellfish beds in the Buzzard Bay, Massachusetts (within miles of the proposed windfarm).[19]The reopening of the last closed shellfishing area was in October of 2003. This state mandated six month closure of this precious resource resulted in measurable economic costs amounting to tens of thousands of dollars in lost revenue to the Massachusetts economy. In addition to the economic losses, the collateral ecological damage may have affects in all of the various trophic levels of the ecosystem.

As a result, the potential damage to fin fisheries at higher trophic levels is quite real, yet difficult to quantify. Oil spills cause statistical spikes in normally expected avian mortality data. Research subsequent to the Exxon Valdez disaster in Alaska has shown exposure to oil as causing long-term health issues.[20] These issues result from genetic disruption from the direct effects from oil exposure in many species at various trophic levels. This recent closure of the Buzzard's Bay area provides a parallel experience to illustrate the dangers resulting from unintended oil releases to the marine environment. Shellfish are close to the base of the ecosystem's food chain and potential environmental impacts may affect marine, avian, and mammalian species as a result. Although difficult to measure, accurately all of these factors must be included in a balanced long-term risk and impact assessment. The revelation of the intertwining nature of economic and ecological interests is clear after an examination of this accidental spill and the resulting ecological disruption. Any attempt to separate any of these elements in an effort to simplify the analysis would result in an incorrect analytical outcome.

Fisheries

Some local fishing interests argue that the ability to fish the Horseshoe Shoal area will be affected, especially when consideration is based simply by the installation of foundations, which form physical obstructions interfering with certain kinds of fishing.[21] Trawl fishing which utilizes a net towed on or above the bottom of the ocean would be one instance where a detrimental impact is quite clear. The contradiction in that opposition position is that this is a very shallow area of approximately nine feet in depth. Customarily trawl fishing is conducted in much deeper water. Again, the importance of engaging in a deeper analysis to assess the potential of perceived beneficial or detrimental effects to specific fishing interests accurately is quite clear.

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The depletion of fish stocks in the waters of Nantucket Sound and Martha's Vineyard Sound are a matter of record as indicated by declines in reported catch data. These declines stem from the lack of any cohesive or effective federal or state regulations. This point is documented in a Boston Globe Newspaper article from the October 26, 2003 written by Beth Daley and Bill Greene.[22] "Twenty seven years ago the federal government seized control of the region's fishing industry in a bid to save it, then presided over its collapse, as the number of fish in one of the world's richest fishing grounds fell to historic lows." This view is consistent with the research authored by The Pew Charitable Trust's Ocean Commission Report; Managing American Marine Fisheries Coastal Marine Ecosystems and Global Climate Change returning findings pointing to unhealthy environmental health in all of the Earth's great oceans. "Mismanagement and lack of attention to these once bountiful waters are consistent factors the world over."[23]

Scientific data indicates this area as being unimportant in considering the importance to the reproductive cycles of marine species. Existing data gathered illustrates low reproductive utilization illustrated by counting egg and larval populations.[24] The area is occupied by numerous marine species and is used as a feeding ground. The impression of low species habitation created by these data stands in sharp contrast to information provided by a local Martha's Vineyard fisherman. According to a commercial fisherman living in Edgartown, Massachusetts Horseshoe Shoals is very productive for certain kinds of fishing.[25]Having fished this area for many years, he provides a different view than that formulated by the existing data. His catch includes Black Sea bass (Centropristis striata), Scup (Stenotomus chrysops), and the Atlantic moon snail (Polinices duplicatus) locally referred to as conch.

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This anecdotal information stands in stark contrast to some scientific data suggesting this area as having little value as a productive fishery. This fisherman derives a minimum of 50% of his annual income is from this area. When included, this anecdotal information counters the data available on this area and creates a contrary view of the potential vitality of this fishing area. His primary concern about the windfarm involves the displacement of sand resulting from the placement of structures in the benthic zone that may disrupt the shoaling characteristics by changing the movement and deposition of sand in the area. (Shoaling is caused by the movement of sediments in active tidal zones.) Any change in the physical features in the benthos has the potential to change the habitats of any resident marine specie. Shoal areas are a highly dynamic changing environment. The placement of windmill foundations should not cause excessive change or damage. There will be no impediment to the movement of the sand and water around the structures after construction is completed. There is, in fact, great deal of scientific data that suggests structure in the marine environment provides the basis for the creation of additional new habitats. Professor George Buckley of the Harvard's Extension School's Marine Program makes one point about structures on the benthic zone. "Structure provides habitat."[26] The enhancement of potential increases in resident marine populations may occur with the additional structures. This is an important question and should be included in the quest for an appropriate response. The creation of a marine reserve in this area may be a concept for inclusion in a final application approval that would have widely realized benefits.

Noise

There are concerns about noise from the operating windmills. The answers addressing that concern come from wind farms that exist in other parts of the world.

Noise from gearbox of windmills was an issue in early designs. Improvements in the design tolerance of the transmission gears and added acoustical sound-proofing surrounding the mechanical housing helped reduce mechanical noise.

The spinning blades produce some aerodynamic noise when experienced in close proximity (< 600 M). It is less detectable at greater distance. Improvements to earlier blade design have minimized the potential of noise pollution.[27]

Navigation

Some see these towers as a hazard to navigation. While true in a pure sense, the location of the proposed windfarm is a carefully considered placement. At times of extremely low tide, Horseshoe Shoal is often close to atmospheric exposure. The shallow nature of the area precludes transit by large watercraft. Naturally, the area is marked on marine navigational maps and lies away from any major shipping channel or ferry crossings.[28] Any impediment to navigation would most likely be to smaller craft. Standard Coast Guard regulations require each tower to have lights, which will make them visible and avoidable by boaters in that area.

Economic

Many parties cite expressed concerns of potential economic loss. Those potential losses may result from reductions in fishery catch numbers, tourism, or in local real estate values. The example established in Denmark has shown an actual increase in tourism as people flock to see the windmills.[29] For the Danes these structures are a source of national pride as they represent a national self-reliance and energy independence. While proof that this will happen in this area is not a certainty. The Danish example should be taken into account.

While some methods of fishing, such as trawling, may be restricted, the creation of additional types of habitat presented by the newly placed structures may enhance and foster the growth of natural marine populations based on the addition of varied habitats specific to new species. Reductions in catastrophic oil spills will reduce the closure of shellfishing beds, reduce the risk of environmental disruption, and increase the overall health of the marine environment, all of which actually enhance the underlying eco-economic potential. Of these views, one must examine potential benefits, or offsets, with an expectation that some of these gains will be achieved in a much longer chronological window. This has the potential to foster ecological, environmental, and economic improvements manifested exponentially.

There will be jobs created during the construction phase of the project. The post-construction phase the maintenance of this installation should provide of an undetermined number of long-term jobs opportunities in the local economy.

Federal subsidies for the proposed facility, labeled as an unfair advantage for the developers and burden to the taxpayers has emerged as an economic concern.[30] There is little discussion of the enormous subsidies granted to the oil and gas industries.[31] The granting of similar economic benefits will level the economic playing field and must be granted to the developers of wind energy if is to be competitive. There is a striking difference in the cost / benefit analysis resulting from the subsidization of the extractive energy industries and the industries that harness wind for that energy production. Full cycle analysis (or full cost accounting); reveal downstream costs not usually considered. The use of fossil fuels for electrical generation results in the discharge of large quantities of hazardous byproducts such as sulfur, mercury, and carbon dioxide, into the environment.

Many nuclear, coal, or oil generating plants are located on rivers or shore areas, as they require large amounts of water used as source of inexpensive coolant. The circulation of water through the cooling system of these facilities draws excess heat from the generating plant. This superheated water is then discharged into the open waters. These waters are often an estuarine ecosystem. The heating of the water kills the protozoan life forms entering the plant's water intakes. These organisms form the very basis of the ecosystem. The discharge creates unnaturally warm areas resulting in further changes in the natural balance within the local ecosystem.[32] When examined carefully the environmental cost of using water for cooling is quite high. When compared to generation from fossil or nuclear fuels localized impacts from wind generation are minimal. Any discussion must result in an understanding of the totality of local and regional impacts resulting from conventional generation. Those effects are not seen locally and often do not enter into the discussion in a meaningful way. Remote or displaced effects are no less damaging to the overall environment. Wind generation is an environmentally friendly "clean" technology with little, if any, downstream cost.

There are clear benefits gained by the assumption of risks such as the construction of this project as The United States must begin to move toward a national energy policy based on environmentally compatible sustainable production technologies.

Jim Gordon the president of Cape Wind Associates LLC has a vision. His vision of "green" energy production is business venture. Profit is but one of his motives. Profits emanate from successful business and should not be seen as a negative. Profit is, and should, be an accepted element in providing incentive to assume the financial risks encountered on the course to developing new technologies and business models. Some opponents disagree.[33]

1808

Pollution

The many oil spills occurring over the past three or four decades, as discussed earlier, have resulted in severe and long lasting ecological damage. Most visitors and residents of this area do not understand that the dramatic orange sunsets that are so famous result from a stream of atmospheric pollution flowing across the United States out and over the Atlantic Ocean. The increased utilization of wind power will displace the need for conventional generation with the accompanying hazardous by-products.

Safeguards

In addition to the complete review of the application the placement of safeguards are important to guarantee the removal of this installation at the point of obsolescence or failure. This should not burden to the local population because it is part of the life cycle of this installation and must be included in the budget from the outset.

Commentary and suggestions

Moving forward into the future requires a paradigm shift in the way people meet, and live with our rising energy requirements. As much as the U.S. government is failing to address the issue Cape Wind's efforts are an example of what political leadership could be doing. The Cape Wind proposal contains a consistent message of concern for the environment both locally and globally. The Cape Wind presentations espouse a position, which acknowledges the moral obligation to use "green power" as humanity begins to live with a palette of uncertain effects that are beginning to result from global warming. Sustainable or "Green" labeling is a marketing tool, consequently the importance of adhering to the concept of a full and fair review, will give assurance to all concerned parties that such labeling, pro, or con, will not interfere or cause bias in any of the deliberations.

The implementation of conservation, sustainable technology, and education will enable Americans to continue to enjoy a standard of living similar to that which we experience today.

An ethical imperative is raised by any application that might result in profound change to the status of the natural environment. That imperative is to give voice to the voiceless non-human residents within ecological systems. The need to provide substantive representation on behalf of all biotic elements is an important aspect of any holistic impact analysis in the effort to understand the full range of impacts on the various systems present in, and outside, of a particular locale. By recognizing, the significance of the representation and consideration of these communities is the only meaningful basis on which to make true and realistic determinations about impacts, both immediate and future in the formulation a relevant cost-benefit analysis. To achieve a higher and more realistic level of understanding it is necessary to make a quantum leap beyond the conventional paradigms of modern science, which demands proof, as fact, prior to acceptance. The new paradigm should incorporate the scientific understanding humanity has developed during the past few hundred years and apply it in a projective theory of community relationships. The new view must be liberated by the inclusion of a basic anti-anthropocentric assumption, so contrary to the present standards of awareness. This concept represents the interests of the true commons in which ownership interests of natural resources are broadened to include all citizens human or not, with consideration to those living beyond the local environs. When included as an element of the broader picture the trade-off of unseen or displaced effects are then given a more realistically weighted importance with greater values assigned in the discussion and formulation of any eco-economic evaluation.

Value then, must and will, be able to evolve beyond current simple notions of economic assignments. The currency of the natural economy of an ecosystem involves no money just the transfer of energy in many forms. Humans assign values in degrees of self-significance and will vary greatly conditioned by the specific interests of individual parties. Ecological evaluation is profoundly different. When assessed on behalf of those voiceless inhabitants of the natural world a minor miscalculation of value might result in the life or death of an organism. Which raises the question; What right do we as humans have that grants us the moral authority to impose our value systems on creatures with disregard of their natural rights? The Earth has been occupied by other species before the appearance humankind and will likely continue long after we are gone.

Historically, interested parties who should be participants in the development of regulations have been unable to coalesce around a guiding set of ethical principles and shared common interests. Often lacking involvement of strong political leadership commercial and individual interests are the only issues addressed. There is an opportunity to harness the current interest in this project and use the momentum to drive the formation of broad regulatory guidelines to enhance the protection of these waters. What is clear is the inadequacy of doing so on a piecemeal basis.

During the past decade major impacts on the natural resources such as over fishing, the construction of the Boston harbor outfall pipe, and lax oversight of development added to the continued denigration of ecologically sensitive areas. The Cape Wind proposal is perhaps a stroke of luck and opportunity for this beautiful area. The placement of towers promises little environmental impact after the initial construction. The resulting reduction in generation from fossil fuel facilities promise less exposure to the potential of oil spills and some reductions in localized stack emissions.

The permitting process prior to construction must include a holistic analysis which, when completed, should reveal these benefits. Once the collection of data for this application is complete, it must be utilized to formulate a basic regulatory framework for future projects applicable to many areas of the coastal United States. Although certain aspects of similar applications in other venues will change, such as the migratory movements of avian populations the methodology of addressing relevant questions will be in place.

The daunting possibility that the Bush administration makes no change in America's energy policy will result in the expanded use of fossil fuel and more of the environmental damage extractive exploration incurs to meet increasing energy demand.

Today's energy policy is not ethically sound.

The importance of broadening American's view of their place in and not at the center of the world is made clear again. The repetition of natural patterns provided by single organisms as elements of ecosystems provides a perfect analogy of this. Increasing awareness of the global environmental community and the need for American energy self-sufficiency will drive increasing numbers of proposals for projects, such as this. The enactment of a bulwark of regulation will ensure sensible and sensitive development of alternative energy sources. The responsibility of involvement rests with all of the parties whether federal, state, or local.

Finally, the creation of a marine reserve in this area after the construction of the towers is completed would serve as a model for integrated collaborative solutions. The Pew report suggests these non-fishing areas function as marine nurseries seeding hundreds of square miles of adjacent waters while increasing potential biodiversity and species density.[34]

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[6] Commonwealth of Massachusetts agency listing (See website listings pgs. 21,22)

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[20] Alaska Wilderness League," Exxon Valdez Oil Spill: Ten Years Later" by Pamela Miller, Arctic Connections 3/99 (http://arcticcircle.uconn.edu/SEEJ/Alaska/miller2.htm) (www.planetark.com/daily newsstory.cfm/newsid/23190/story.htm)

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[25] Edgartown Fisherman-Interview by David Damroth via telephone 12/23/03

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[28] Locus map Cape Wind Associates (www.usace.army.mil/projects

[29] Danish tourism article

[30] "Cape Wind Eyes Subsidy" by Jack Coleman, Cape Cod Times July 26, 2003

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[33] Alliance brochure (www.saveoursound.org)

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Sources

Principle organizations

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Save Our Sound Organization (www.sos.org)

Federal agencies

United States Army Corps of Engineers (www.usace.army.mil)

National Oceanic and Atmospheric Administration (www.noaa.gov)

New England Fisheries Science Center (www.nefc.noaa.gov)

United States Environmental Protection Agency (www.epa.gov)

State agencies

Massachusetts Technology Collaborative (www.mtc.org)

Massachusetts Office of Coastal Zone Management (www.state.ma.us/czm)

Research / Non-profit organizations

Wood's Hole Oceanographic Institute (www.whoi.edu)

Pew Charitable Trust (www.pewtrusts.org) (www.pewoceans.org)

England Fishery Management Council (www.nefmc.org)

Local interests

The Cape Cod Commission (www.capecodcommission.org)

The Martha's Vineyard Commission (www.mvcommission.org)

Energy

NSTAR Electric Corporation (www.NSTAR.com)

Mirant Corporation (www.mirant.com)

Cape Cod Light Compact (www.capelightcompact.org)

Newspapers

The Vineyard Gazette (www.vineyardgazette.com)

The Martha's Vineyard Times (www.mvtimes.com)

The Cape Cod Times (www.capecodtimes.com)

The Boston Globe (www.bostonglobe.com)

The Boston Herald (www.bostonherald.com)

1809

Wind Power Concerns 12-05-2004

Wind is a great renewable resource. It can power sail boats and wind mills. But placement of a wind power factory in the center of a recreational area mixes manufacturing with recreation. Such different industries are not compatible, and the existing recreation industry would likely suffer.

The environmental benefits of wind as a general means of power generation have been analyzed and are accepted. Yet the negative environmental effects –specific to this site- have only been glanced over and seem to be understated. A serious and objective analysis needs to be done on potential avian deaths; effects on fish due to vibration, sound, and displacement; effects of turbine noise ,construction disturbance, light contamination, oil spills from maintenance of each of the turbines and from charging and maintaining the transformer platform, which contains 40,000 gallons of cooling oil and 1,000 gallons of diesel fuel, noise and traffic interference by maintenance barges . Have the electromagnetic effects on long range radar located at Otis Air Base, which protects the eastern seaboard, been examined? What about radar and communication interference for commercial and private aviation? Do we know the potential risks to tourism and property values? These issues will affect Cape and Island residents as well as the visitors who support our recreation industry.

Think of a summer visitor coming to the Cape and Islands for our pristine beaches and finding an industrial wind power plant in the middle of the Sound. At night, will the visitor be deprived of restful sleep by turbine noise and/or flashing lights? Next vacation, will this visitor look for another vacation spot? What will happen to our tourist industry?

One recent survey has shown property value declines caused by the wind energy factory of up to 11% in water front areas. This is not only a problem for wealthy water front property owners. This is a problem for all of us. A decline in property values will affect tax revenues. We will have to raise taxes or decrease services. Can we suffer a cut in school budgets and a resulting decline in the quality of education? Can we afford cuts in services to the elderly?

The labor market will also be affected. The area employs about 50,000 people and is heavily dependent on tourism. A 5% impact translates into a loss of 2,500 jobs. Maybe some small shops that depend on tourism will

1809

have to close. The gross impact to the area economy would be in excess of 100 million dollars.

The wind factory proponents are asking us to close our eyes and take a risk that may destroy our environment, our pristine Cape Cod and Islands and our way of life. For this privilege, we will pay 1.8 cents, for each kilowatt hour generated, from our tax dollars, or 28 million dollars per year for ten years. The total cost of this proposal is too high. Put the wind power factory where it does not destroy an existing industry and a way of life for Cape and Island residents and visitors alike.

Eugene Uzpurvis
42 Clifton Lane
Centerville, Ma. 02632
508-771-6660
uzpurvis@aol.com

17 Highet Ave
Woburn, MA. 01801
December 7, 2004

1810

To: Whom it may concern

I would like to express my support for the Cape Wind Project for the following reason's:

(1) Its a plain fact, that alternative sources of power generation are a necessity, to minimize air pollution and its worldwide pitfalls.

(2) These fields cannot be located anywhere and be economically feasible, as wind efficiency is localized to selected areas, for the project to be successful. Lets take advantage of a natural energy source.

(3) Many of the objections, such as detrimental to birds, and the such, would exist anywhere.

(4) We have to start somewhere, and it would seem that; were profits to become excessive, then that could be controlled in the previous startup agreements; i.e. to reflect back excessive cost savings to the consumers or other good works. This would lessen the image of it being a land grabbing scheme, by providing a better good.

(5) How many people object/insist that telephone/power poles be removed from streets. I believe they're all over, including the Cape, the Kennedy Compound, and the Islands, and will be there for many years to come!!

For the above reasons and plain common sense, the Cape Wind Project should be approved; as it will provide a better good in the future

Paul J. Wentworth

1811

Richard M. Wolf
33 Bantry Lane
P.O. Box 837
Brewster, MA 02631

Phone 508/896-3472
E-mail: richard.wolf4@verizon.net

December 4, 2004

U.S. Army Corps of Engineers
New England District
Cape Wind Energy EIS Project
Attn: Karen Kirk Adams
696 Virginia Road
Concord, MA 01742

Dear Karen,

There are two major benefits and no major negatives to constructing a wind farm off Cape Cod. There are also many smaller benefits but a few perceived negatives that are the basis of vocal opposition.

The two major benefits are the creation of energy without adding harmful emissions to the air we breathe and reliance on a renewable resource.

My grandson has asthma and his health is adversely affected by poor air quality. Since the wind farm could produce electricity without adding harmful emissions to the air, the utilization of wind energy could improve air quality. All people would benefit but especially those like my grandson with asthma or other pulmonary disease.

The other major benefit is the reduced reliance on foreign oil. Freedom from dependency on oil obtained from the Middle East has to be a priority for the US.

I have seen wind mills in upstate New York at Madison and Fenner. These have become local tourist attractions with tours given at the Madison location. I have also seen hundreds of wind mills in Germany, Austria and France. In each case, the slow moving wind mill blades have been seen by local residents as a positive supplement to their energy needs.

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Vice President / General Counsel
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Stephen F. Freifeld, M.D.
Medical Director

7 December 2004

Karen Adams
Project Manger, Regulatory Division
Army Corps of Engineers
N.E. District
696 Virginia Road
Concord, MA 01742

1812

RE: Cape Cod Wind Farm

Ms. Adams:

I am writing to express my strong disapproval of the proposed wind farm on Horseshoe Shoals. This is one of the worst imaginable locations for such a project as it is visible from so many points of land. People come to Cape Cod to enjoy the ocean, not to look at power plants.

This project is being pushed through before comprehensive and effective regulations exist governing offshore wind farms. These regulations are coming, and no reasonable person would predict that they would allow a wind farm this close to shore in a huge tourist area without specific and explicit state and local government approval.

Please consider that your granting of a permit before rules are enacted would permanently degrade Nantucket Sound - which is one of the crown jewel's of the State of Massachusetts. For you to grant this permit under the current loophole would result in irreparable harm to the people of Massachusetts.

The solution is simple, place projects like this far offshore and out of sight or give state and local elected governments the power to veto inshore projects like this one.

Please do not grant a permit for this location until regulations adopted by the political process, debated and meant to address offshore wind farms are in place.

If you do grant a permit, make it for a less visible location truly offshore (and thus out of sight) or on Camp Edwards, on land.

The majority of the earth's surface is water which is out of sight of land. That's where these wind farms should be, not opposite beaches which millions of people enjoy for rest and recreation.

Granting this permit now would cause irreparable harm. Why not wait until rules are in place to avoid this risk?

Thank you for your consideration.

James J. Mangraviti, Jr., Esq.

24 Hall Ave. #3
Somerville, MA 02144-2004
December 7, 2004

1813

Karen Kirk Adams
Cape Wind Energy Project EIS Project Manager
Army Corps of Engineers, New England District
696 Virginia Rd.
Concord, MA 01742-2751

Dear Ms. Adams,

I am writing to express my strong support for the Cape Wind Energy Project. The small local environmental and aesthetic impacts are vastly outweighed by the benefits to our global environment, the reduction of dependence on foreign oil, and the important precedent this project will set for developers and proponents of future wind projects.

There is great opposition from local groups who are concerned about the impact on fish and wildlife, as well as the potential navigational hazard posed by the turbines. I think the DEIS clearly shows that neither of these concerns are adequate grounds to cancel the project. There is also the concern for the visual impact the wind farm will have for residents along Nantucket Sound. I believe this is the peak of selfishness and falls into the typical not-in-my-backyard mentality; within 100 years we will not have a choice about wind power, it will be a necessity as oil supplies decrease and unrest in the Middle East causes oil prices to explode.

The wind farm will produce enough power at peak operation to offset 113 million gallons of imported oil each year. Our dependence on foreign oil is a clear threat to national security; a responsible energy policy is an important component of protecting ourselves from terrorists. This affects everyone in Massachusetts, and America. Again I ask how the residents along Nantucket Sound could be allowed to block this project, and make the choice for all of us.

Finally, Cape Wind will be a foundation on which to base the development of future wind power projects. It represents a historical turning point for wind power in New England, and a triumph in effort and cooperation among many people and organizations.

Please recognize the importance of the successful construction of the Cape Wind project has for all Massachusetts residents and for our global environment.

Sincerely,

Megan Owen

1814

December 7, 2004

Cape Wind
Karen Kirk-Adams
Cape Wind Energy EIS Project
US Corps of Engineers, New England District
696 Virginia Road Concord MA 01742-2751

To Those Concerned:

This is a letter directed to those who might reasonably agree that wind energy is vastly superior to fossil fuel, various gasses and extraction technologies which permanently deface the earth. This present situation requires, first, accepting our dependency on the suppliers who have regulatory power over their largest, indeed, voracious consumer.

No, this letter is mostly directed to those who just can't stand the idea of scores of wind-mills interfering with their view of nature's landscape that we have known and loved for generations. Its a visual problem, but represents an environmental solution.

It is all in the habits of the eye. Just as we need to study to understand a painting, we need to study to understand a new Twenty-First Century aesthetic--that is to view nature and culture as mutually enhansing, creating a reasonable balance--not as a violation of the one by the other- a 19th view. Nature has long been the setting for progressive expansion. We need to stop romantising "nature" and start using its beneficence rationally and sensitively, meaning to stop drilling, stop surface-mining, stop urban sprawl! These are the real violations of the natural landscape!

The view of wind farms--in California, Denmark, Sweden is informed by intelligent use of natural resources for the betterment of our collective life. These are not blights on the landscape, which any of their residents love as much as we love the Cape seascape. Cape Wind proposes not only a new energy source-but a new aesthetic.This new picture challenges us to acknowledge the results of our own habits of consumption and accept as new paradigm, that of the interdependency of nature and culture as an on-going, reciprocal realtionship. We humans belong to both; this solution is one we can live with and be proud of.

Cordially,

Joan Brigham, 45 Mt Pleasant St.,Cambridge MA. 02140
Former Research Fellow
Center for Advanced Visual Studiues, MIT

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December 6, 2004

1015

Colonel Thomas Koning
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Re: Comment Period on Draft Environmental Impact Statement for the Cape Wind Project
(Our File No. 20496-2)

Dear Colonel Koning:

This office represents Save Popponesset Bay, Inc., a non-profit organization consisting of land owners and other citizens concerned about Popponesset Bay, the "Popponesset Spit", and the surrounding waters, including Nantucket Sound. Save Popponesset Bay, Inc.'s interest in the Cape Wind Project is evident as it was allowed intervener status in the proceedings before the Commonwealth of Massachusetts Energy Facilities Siting Board. In addition, the Popponesset Bay area and the houses in that area likely represent the closest landfall from the proposed wind park as the area is a distance of approximately four and a half miles from the proposed wind project. Accordingly, Save Popponesset Bay, Inc. has an interest in commenting on the Draft Environmental Impact Statement (DEIS) for the Cape Wind Project.

On behalf of my client, I would request that the Army Corps of Engineers consider extending the comment period to at least 180 days. The sheer volume of the document as well as the size of the project and its impact, require that adequate time be devoted, particularly given the highly technical nature of the DEIS. I believe that other interested parties have also suggested that the current comment period is inadequate. Accordingly, I would join in the request for a one hundred eighty day comment period as reasonable to address such a large scale and controversial project.

1815

Thank you for your consideration of this request.

Very truly yours,

BARRON & STADFELD, P.C.

David Dwork

DD:mbs

cc: Ms. Christine Godfrey,
U.S. Army Corps of Engineers
cc: Mr. Kevin Harrington
cc: Mr. Greg Smith
cc: Mr. Michael Oleksak

1816

54 Leonard Drive
Osterville, MA 02655
December 4, 2004

Karen Adams
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742

Dear Ms. Adams,

I am writing to you to ask that you extend the comment period for consideration of the proposal to build 130 wind turbines in Nantucket Sound. Defenders of this project have portrayed it as an environmental benefit, for which everyone should sacrifice for the greater good. In fact, the wind turbine project is one man's private business, constructed specifically to take advantage of the tax benefits given to alternative energy sources and the extraordinary benefit of access to public waters. Without these very unusual circumstances this particular business plan wouldn't stand a chance of making a profit.

For the sake of this one very tenuous business, many other businesses on Cape Cod will suffer. The destruction of the environment, which will result from this purportedly "environmentally friendly" project will hurt the Cape's most important business: tourism. The thousands of residents here are being asked to tolerate this gigantic eyesore just so one company can make some money. This is a case of advancing a private interest over the public interest.

I urge you to allow sufficient time for full public comment before the environment and the area's tourism industry suffer irreversible damage.

Sincerely,

Susan Day Burghardt

US Army Corp of Engineers 12/4/07
Concord, MA 01742

1817

To Whom It May Concern

The signer, a resident on Cape Cod Massachusetts and directly effected by the proposed Cleaner wind power, wishes to be known as supporting in all respects Cape Wind Project EIS in Nantucket Bay.

Thank you for noting this affirmative support.

Sincerely,

Austin R. Knight

RECEIVED
DEC - 6 2007
SECRETARY OF THE ARMY

Austin R. Knight
60 Daley Ter. # 3
Orleans, MA 02653

1818

From:
Chris Olin
608 Concord Rd.
Marlborough, MA 01752

Dear Ms Adams - 12/5/04

I respectfully demand an extension of the comment period from 60 days to 160 days to have adequate time to review the Army Corps of Engineers document.

You must all recognize the the average layperson needs adequate time to absorb the details. As a part-time Cape resident looking to make the Cape my full-time home, I have a great stake in the outcome of this controversy.

Please be fair to those who will be most impacted by this decision and extend the comment period. Chris Olin
[part-time resident of Falmouth, MA]

1819

Margaret Kloo
26 Fernwood Circle
Harwich, MA 02645
Dec. 7, 2004

Karen Adams
Army Corps of Engineers
696 Virginia Road
Concord, MA 01742

Dear Ms. Adams

I will not be able to attend the upcoming public hearing on Dec. 7 at the Mattacheese Middle School in Yarmouth but I would like to register my opposition to the proposed wind power plant. A 10 story tall oil-filled transformer station just off our beaches in Nantucket Sound is absolutely too ugly to comprehend.

Of far no other reason than to save the multitude of migrating birds in Spring and Fall of each year. They would all be gone forever after a couple of seasons.

Please register me as definitely opposed to the wind power plant.

Margaret Kloo
26 Fernwood Circle, Harwich, MA

1820

7 Washington Street,
Plymouth, MA 02360-3434

Dec 6, 2004

Draft Environmental Impact Statement.

Gentlemen:

I am an ordinary citizen of this country, more than anything else I describe myself as an environmentalist. I have been a member of the Mass Audubon Society for years and their feelings on the issue of wind farms has made me seriously consider canceling my membership in that organization.

I am angry and surprised at the amount of opposition to having a wind farm in Nantucket Sound. Are wealthy people using their money to influence decisions based on their own selfish goals and investments? I hope not. So many don't seem to care about the impact on the whole planet we are having by continuing to use energy that creates pollution.

Count me in favor of the Cape Wind project and I understand that the wind turbines are not at all unsightly. I support the Nantucket wind farm wholeheartedly and will encourage friends of mine to write in support also,

Thank you,

Sincerely,

Valerie Peck

12/05/04

Dear Ms. Kirk-Adams — 1821 (senior citizen)

First of all, I am a very private person and could not speak publicly about my feelings re the proposed wind farm at Horseshoe Shoals. But I want you to know that I do favor the project.

Our country desperately needs to become more responsible for our own energy production. And every little bit will help. The wind farm will produce "clean" energy. I have traveled to the North Sea and the Baltic and have seen the wind farms there. Beauty is in the eyes of the beholder. I found them more pleasing to look at there that I did in Scotland where they were on land. They will not drive tourism away from there. And I say if the boaters are worried about hitting the towers, they shouldn't be driving a boat. I resent the scare tactics of the opposition. I welcome the jobs the project would provide. And the income that our town will benefit from the project. Lets be pioneers and give this a chance to succeed.

Sincerely, Martha A. Bancroft

88 Pine Cone Drive
West Yarmouth, MA
02673-5422

1822

2 Ancient Rubbly Way
Beverly, MA 01915

December 5, 2004

Karen Kirk-Adams
Cape Wind Energy EIS Project
U.S. Army Corps of Engineers, New England District
696 Virginia Road, Concord, MA 01742

Dear Ms. Kirk-Adams:

This letter is in support of the Cape Wind Energy Project. Since 1973, when we all waited in long gasoline lines, I have tried in many personal ways to conserve energy like turning out lights, driving fuel efficient cars, using a wood stove to supplement heat, and buying energy efficient appliances. We have just recently signed up with Massachusetts Electric GreenUp Program and gladly pay more money for part of the electricity we receive through wind power.

Fear of long gasoline prices is not the only reason for the above efforts, and subsequent events through the years have convinced me of the need for many more people to conserve energy and to find alternative fuel/electricity methods. We can no longer squander our resources without paying a price.

One price we are paying for the cavalier use of energy, especially oil, is the loss of lives of our soldiers, especially in Iraq. While there are other clear reasons for the current war, it is also clear that the Middle East is vital to us for its oil and worth sending troops to make sure the flow of that oil continues. In a few short months, it is likely that my son will be deployed to Iraq to fight and perhaps to give his life. If he and others were giving their lives only for others' freedom, my sadness at the loss would not be so intense.

The opponents of Cape Wind talk about the negative effects of the project – all answered very effectively by the Corps of Engineers' Draft Environmental Impact Statement. Furthermore, it astonishes me when I hear of opponents' concern over job losses, bird loss, noise, fishing and ruined vistas from vacation homes. What is that when it compares to men and women who are and who will continue to lose their lives, partially for oil?

1973 was a wake up call for this country to begin conservation. We didn't listen because we became comfortable again, despite the price. It is time for projects like Cape Wind to receive full support to make the United States more dependent on its own energy sources, to make sure we don't repeat the 1973 crisis, and to prevent many more lives being lost for oil.

Sincerely,

Karen F. Emery

TO: MS. KAREN ADAMS - ACOE. 1823 12/2/04

I ~~AM~~ am writing to you to voice my vehement opposition to wanton destruction of Nantucket Sound by the placement of 130 wind turbines. Currently, there are no federal laws that authorize the occupation of the outer Continental Shelf by private developers or that regulate how and where such development is appropriate.

Having said that, the federal government must first establish guidelines for the review of such proposals such as Cape Wind's before any more development takes place.

This public area belongs to all of us. ~~AND~~ it is imperative that sensible laws be passed before any projects are approved.

Please, MS. ADAMS, Do not contribute to the destruction of Nantucket Sound. I do not own a house on the water, so this is not a case of Nimby. How could anyone in their right mind think this project should be built on MY Beautiful Sound. I strongly urge you to consider Building this project on land, namely the MMR. There is plenty of space in which to build this project. I am not against wind power. I am against wind power in an area like Nantucket Sound. If this is built, what's next? Filling every spare acre of water with these ugly monstrocities? People come to Cape Cod ~~to~~ for the beautiful unspoiled ocean views. If this is built in the sound, it will be the beginning of the end of Cape Cod as we know it. Please, please Do not let this happen.

Sincerely, John R Cimaboa

1824

James Byers
12 Littlehale Rd
Durham, NH 03824

30 November 2004

Karen Kirk-Adams
Cape Wind Energy Project EIS Project Manager
U.S. Army Corps of Engineers, New England District
696 Virginia Road
Concord, MA 01742-2751

As a resident of New England I am greatly in favor of the Cape Wind project. According to the Army Corps' preliminary DEIS findings The Cape Wind project would result in $1.5–$2 billion in economic benefits to the U.S. economy. The project would create about 391 full-time jobs during construction and installation, plus about 50 full-time jobs for operation and maintenance once the project is operational. The site where the wind turbines will be built is ideal based on criteria such as strength of wind, transmission capacity, availability of land, and similar engineering and design factors.

Most importantly, it would also reduce the region's dependence on fossil fuels, save money on electricity bills, and enable Massachusetts to comply with its renewable energy standard at a reduced cost. The project will lead to improved air quality and reductions in heat-trapping gas emissions from other New England power plants.

All negative consequences are extremely minor and Cape Wind Associates have made every effort to minimize the turbines' impact at every step. For example, there will be no substantial impact on commercial fishing activity or recreational fishing. In fact, the DEIS findings suggest that the turbines may enhance recreational fishing by creating an artificial reef. Turbine noise will be inaudible to boaters in the area, allowing them to hear foghorns during bad weather. The turbines and foghorns will not be heard on land.

Energy from renewable resources is an absolute necessity to protect our environment and decrease our dependence on foreign oil. It makes perfect sense for the energy people use to be generated in their "backyard". This reduces transportation costs of the electricity and also makes people more cognizance of their energy usage and the impacts of all our consumptive patterns on the environment.

I strongly urge the Cape Wind Associates to be allowed to proceed with their wind farm project.

James Byers

1825

December 2, 2004

Karen Kirk-Adams
Cape Wind Energy EIS Project
New England District
696 Virginia Road
Concord, MA 01742-2751

We are citizens of California and long-time summer residents of Chatham, Massachusetts, on Cape Cod. We write in support of Cape Wind's proposed project in Nantucket Sound.

In California, we see large "wind farms" hard at work reducing our dependency on fossil fuels for the generation of electricity. These handsome sculptures enhance the landscape while reminding us of the increasing importance of finding non-polluting methods of producing electric power.

We need more of the same in many U.S. locations where wind power is sufficient. Cape Wind offers a well planned and well-researched addition to our national wind energy capacity. Your report rightly recognizes the weakness of opposing arguments offered by a largely self-interested coalition of objectors.

The Cape Wind project offers a rare chance for environmentalism, private initiative, and sensible planning to unite in service to our nation.

Respectfully,

Marylu Raushenbush
Marylu Raushenbush

Walter Raushenbush Walter Raushenbush

65 Judges Way
Chatham, MA 02633

1826

December 1, 2004

Karen Adams
U.S. Army Corps of Engineers
New England District
696 Virginia Rd.
Concord, MA 01742-2751

Ms. Adams:

Re: Cape Wind
Nantucket Sound

We are asking that you please follow the United States Fish and Wildlife's bird-research protocol, and take steps to mininize harm to birds, bats, and marine mammals before constructing the above "Cape Wind".

Please give the animals a flying chance.

Thank you for caring.

Sincerely,

Paige Woodall

Mr. and Mrs. Robert Woodall
18 Stone Gate S.
Longwood, Florida 32779
Pwoodall@ix.netcom.com

1827

Karen Kirk-Adams
Cape Wind Energy Project EIS Project Manager
U.S. Army Corps of Engineers, New England District
696 Virginia Road
Concord, MA 01742-2751

December 2, 2004

Dear Karen Kirk-Adams,

There is a tremendous the need for clean energy in New England. The Army Corps of Engineers has released the DEIS for public review and the preliminary findings of the DEIS are very favorable. Because this project has the potential to provide a significant amount of renewable energy to New England we whole-heartedly support it, and we live on the island of Nantucket where the wind almost never stops blowing.

We need to reduce our dependence on fossil fuels. So many countries around the world are using energy from the wind, but we are way behind in that. Iceland already uses the wind to provide close to 20% of their energy and many European countries have numerous wind farms with plans in place to use ever greater amounts of renewable energy.

Our family has people who suffer from asthma and the poor air quality all over New England is very obvious to those of us with this problem. The prevailing winds are from the west or southwest and bring polluted air even out to our island. We would also like to see efforts like this wind farm reduce the greenhouse effect that is happening faster than anyone several years ago predicted.

As far as we are concerned the opposition to this seems to stem from the NOT IN MY BACKYARD SYNDROME, but we need to act and act soon and not spend another several years doing nothing. people are always afraid of change, but this will be change for the better.

We hope we can move forward with this project and set an example for others.

Sincerely, Lynn + Harrison Houston

Lynn and Harrison Houston

8 Arkansas Ave.

Nantucket, Mass. 02554-2502

1828

Marcia Leavitt
7 Memory Lane
North Eastham MA 02561

December 3, 2004

Karen Kirk-Adams
Cape Wind Energy EIS Project
US Army Corps of Engineers, New England District
696 Virginia Road
Concord MA 01742

Dear Ms. Kirk-Adams:

I have a residence on Cape Cod, and find electricity rates to be very burdensome. Because there is no natural gas supply directly available my house is totally reliant on electricity. I think it will be very important to have the Cape Wind Project to help bring down the Cape's high electricity costs.

Very truly yours,

Marcia Leavitt

Marcia Leavitt

1029

239 Pembroke St.
Kingston, MA 02364

December 2, 2004

Cape Wind Energy Project EIS Project Manager
Corps of Engineers, New England District
696 Virginia Road
Concord, MA 01742-2751

Dear Ms. Kirk Adams,

I am writing to express my support for the Cape Wind Energy Project in hopes that it will come to fruition thru all the environmental impact studies. I firmly believe that this project is one small step in the right direction to meet the electrical energy needs in our area.

I am a graduate of Massachusetts Maritime Academy and have worked in the Power Generation field for the past 26 years. The fuels used for combustion have ranged from oil to trash to natural gas. One thing they all have in common is that they all pollute the atmosphere – some more than others and no matter how many scrubbers are installed before the smoke stack there will always be some pollutants discharging out of the stack into our atmosphere. This is a given in any fossil fuel burning power plant. On the other end, we will always have the inherent risks involved in transporting the various fuels to the power plants. We all witnessed the oil spill in Buzzards Bay and the damage it inflicted on our environment.

Wind power in my view is Mother Nature's gift to us. An endless supply of a pollution free source of power. We just have to harness it to create electricity. I made a hang glider when I was younger and flew it on the sand dunes of Wellfleet and the White Cliffs in Plymouth. Every time I took off the harness would grab me, picking my body weight up and I was flying – I was awe struck at the power of the wind then - and I still am. I enjoy watching kites flying, trees swaying and wind turbines gently swirling. I have sat and watched Hull's lone wind turbine and I think it is beautiful. One of the concerns of the project is aesthetics. I guess everyone has a different opinion here but I would love to have a wind farm as part of my panoramic ocean view. I do not think the project would have any negative effects on tourism to Cape Cod – to the contrary I think people would enjoy viewing it. A statement as to our resolve to reduce dependence on foreign oil and move America's energy future needs forward. I would be proud of it!

Some of the other benefits that I see are that each tower (after a short period of time from construction) would create its own little eco system around it, which will improve fishing for the local sport fishing enthusiasts. They will easily be able to maneuver around the towers while fishing with no limitations other than the depth of the shoal. Also, if any emergencies did arise they could find refuge at the base of each tower and have a fixed location when radioing for help.

1829

If this project does get built it will give competition to my current employer which could jeopardize my job. But I am 100% for this project for a cleaner, healthier environment for our future, our children's future and generations to come.

I hope we can get past the minimal downsides and all of us reap the many rewards from the Cape Wind Project.

Sincerely,

David G. Chartier

David G, Chartier

1830

4 Executive Drive
Mashpee, MA 02649
December 3, 2004

Karen Adams
Project Manager-Regulatory Division
696 Virginia Road
Concord, MA 01742

Dear Mr Adams:

Cape Wind Power Plant Project in Nantucket Sound should be rejected. It makes no sense to use 24 square miles of public land for private development use without any compensation. In my opinion there is the left.

1830

The proposed project would ruin the natural beauty of Nantucket Sound and would harm migratory birds. The developer has never built a wind power plant. The world's largest offshore wind power plant located in Denmark's waters has been dismantled after only two years of operation. The power plant if completed would save only ten cents a month on electric bills. For these reasons, the project should be rejected.

Very truly yours,

Judy Goldstein
Arline Goldstein

P.S. The comment period should be extended from 60 Days to 180 Days.

1831

December 2, 2004

To Whom It May Concern,

I am writing this letter to speak out in support of the proposed Wind Generation Project planned for Horseshoe Shoal. I have been following this process since it's early development and have always kept an open mind to all the issues surrounding the project.

What has become crystal clear is the fact that Cape Wind has been sensitive to everyone's concerns throughout the journey. From downsizing the number of turbines, to addressing all of the economical and environmental concerns of the surrounding communities.

I listened to Col. Koning describe the process to be used in determining the most feasible site for a wind farm, and it appeared to me that his methodology was both thorough and unbiased.

The public outcry against the project is not centered around not whether the added generation capabilities are required by the region, but the location and location only of the proposed site. All parties seem to be in general agreement that another source of power for the Cape is a must.

I urge the Army Corp of Engineers to move with speed and diligence in moving this project forward and stop any further delays. The time has come for Massachusetts to again help lead the way in committing to clean energy sources.

Thank You

Stephen L. O'Donnell
43 Lanark Drive
Westwood, Ma. 02090

Dec 1 2004

Karen Adams
U S Army Corps of Engineers
New Eng District
696 Virginia Rd
Concord MA. 01742-2751

1832

Dear Ms Adams:

The U.S army corps of Engineers is considering building one of the largest marine wind farms in the world - setting a precedent.

one hundred and thirty wind turbines 40 stories high may interfere with marine animals and bird resting and feeding places as the migrate

In Altmont Calif. 4,700 bird are decimated every year and in West Virginia last fall 3,000 migratory bats were killed.

Tens of millions of birds alone, migrate and feed on the Waters of Nantucket Sound.

It's also habitat of many State and Federal protected species

The U.S Fish and Wildlife Service (USFWS) recommends a study to see if this location is suitable.

Please see what U can do to see the US Army corps of Engineers follows the protocal of the USFWS before proceeding.

We all support renewable energy but, owe it to the wildlife not to create more problems for them.

Sincerely
Mrs D Pixley

Ms. Dot Pixley
515 Millers Chapel Rd.
Greeneville, TN 37745-7354

1833

John Nitzke
550 Acorn Park Drive
Acton, MA 01720
(978) 266-1480
nitzke@sprynet.com

December 2nd, 2004

Ms. Karen Kirk-Adams
Cape Wind Energy EIS Project
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Dear Ms. Kirk-Adams,

I would like to speak in favor of the wind power project proposed by Cape Wind.

Please note that I have no connection to Cape Wind, and will receive no benefit from the project in any way, except as a U.S. citizen and Massachusetts resident.

As an electrical engineer, I have made myself familiar with the overview and many of the details of the project. It is carefully researched, well thought out and likely to be successful if allowed to proceed. In addition, I have reviewed portions of the Corps of Engineers report.

You have already heard all the economic and employment benefits of the project, they are probably realistic, and I won't repeat them here. I'll just express my strong belief that this is exactly the right time for our country to do something about:

- Foreign energy dependence,
- The resulting balance-of-trade deficit,
- Hydrocarbon pollution,
- Global warming, if there really is such a thing.

1833

Cape Wind won't totally solve any of those problems, but it is a start. Although it will have a low impact on the environment and surrounding communities, the Cape wind turbine farm will demonstrate a way they can be solved, with low economic risk, in a pollution free manner. We should be putting up windmills all over our country – wherever they are meteorologically viable and economical.

I do not agree with the people who say they will lose their precious seascape. I predict that once the wind turbines are built, tourists will pay for a boat ride to see them up close. If I could afford Cape Cod beachfront property, I would welcome the wind farm. I personally feel that it will improve the view.

Please don't let all the naysayers slow down this project until it collapses. That is not fair to the people who had the foresight and commitment to bring the project this far. They saw an opportunity to improve our country and took it.

Thank you.

Sincerely,

John Nitzke

1834

Richard Hurley
15 Union Wharf Road
Dennisport, MA 02639

12/3/04

Army Corps of Engineers
Ms. Karen Adams
Project Manager
Regulatory Division
696 Virginia Rd.
Concord, Ma 01742

Dear Ms. Adams:

I am opposed to the Wind farm project currently under review for Nantucket Sound. There are so many environmental and public resource negatives that I cannot believe this project is even under consideration.

I need at least 180 days to review the 4000 page DEIS Statement and respond with any specificity. I strongly urge you to extend the comment period from 90 days to 180 days.

Sincerely,
Richard T. Hurley
RICHARD F. HURLEY